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AND

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### REVIEWS OF NEW BOOKS.

*Biblical Researches in Palestine, Mount Sinai, and Arabia Petreæ. A Journal of Travels in the Year 1838.* By E. Robinson and E. Smith. Undertaken in reference to Biblical Geography. 3 vols. 8vo. London, 1841. Murray.

Dr. ROBINSON is Professor of Biblical Literature at New York; and his companion was previously well acquainted with the countries of the mission, and seven years ago published his Travels in Armenia. They were therefore well qualified for this undertaking, and have indeed produced a very valuable work. It is valuable in peculiar points, but, from its very nature and character, so prolix, that it has cost us some weeks to toil through its details. It is, nevertheless, rich in sacred geography, topography, and *résumés* of history; and not destitute of personal incident, and descriptions of men and manners. Much looks more like the report of a Surveyor, than the diary of a Traveller; and diaries, as we have often felt, are sore temptations to length and minute particularities. The style is not always very good English, but it is intelligible enough; and if we want elegance, we must be content with perspicacity.

Having thrown together, with as much brevity as possible, these general remarks, we now turn to the author's preface, where he says: '—

"One branch of these historical investigations, which I cannot but consider as important for the future geographer and traveller, presents a field comparatively untraversed. I refer to the mass of topographical tradition, long since fastened upon the Holy Land by foreign ecclesiastics and monks, in distinction from the ordinary tradition or preservation of ancient names among the native population. The general view which I have taken of this subject, and the principles on which we acted in our inquiries, are sufficiently exhibited in the beginning of sect. vii. This view has been silently carried out in the subsequent parts of the work; and the attempt made to point out, in most cases, not only what is truth, and what is mere legendary tradition, but also to shew how far the latter reaches back. In the history of this foreign tradition, three ages or periods are distinctly marked by documents, which shew us, with tolerable completeness, its state and character at the time. I regret that I have not made these different periods more regularly prominent in the body of the work. The first falls in the fourth century, about A.D. 332, when foreign influence had just acquired a firm and permanent footing, and had not as yet very greatly swerved from the tide of native tradition. Of this period we have a record in the Onomasticon of Eusebius, and the Jerusalem Itinerary. The second is the age of the crusades, in the twelfth and thirteenth centuries; the traditions of which are best registered in the tract of Brocardus, about A.D. 1283. The third period occurs at the beginning of the seventeenth century; when the volumes of Quarremius exhibit, in full, the state of the tradition then current in the convents, the great source from which most European tra-

vellers have drawn their information. In comparing these three periods, it is interesting, though painful, to perceive, how the light of truth has gradually become dim, and at length often been quenched in darkness. The Onomasticon, with all its defects and wrong hypotheses, has yet preserved to us much of the tradition of the common people, and contains many names of places never since discovered, though still existing; while the few pages of Brocardus are worth more, in a topographical respect, than the unwieldy folios of Quarremius. It is certain, that in the long interval between Eusebius and the crusades very much was forgotten by the church which still existed among the people; and in the subsequent period, the progress of oblivion was perhaps not less rapid. Even within the last two centuries, so far as the convents and travellers in Palestine are concerned, I fear the cause of Biblical geography can hardly be said to have greatly advanced."

This quotation points to one of the most interesting of the writer's views, to which we shall come in due course; but think it will be most agreeable to our usual mode to proceed regularly with such of the matter as we can notice, in the order in which it stands. Dr. R. and his companion journeyed by Athens, Alexandria, and Cairo, including a trip up the hill to Thebes, &c., to Suez and Sinai, where they were hoisted up in a chair to their convent-lodging.

"On making known our arrival (says the narrative), a cord was let down, with a demand for our letters; and we sent up the one we had received from the branch convent in Cairo. This proving satisfactory, a rope was let down for us; in which seating ourselves, we were hoisted up one by one by a windlass within to the level of the door, and then pulled in by hand. The superior himself, a mild-looking old man with a long white beard, received us with an embrace and a kiss, and conducted us to the strangers' rooms. While these were preparing, we seated ourselves in the adjacent piazza, upon antique chairs of various forms, which have doubtless come down through many centuries, and had a few moments of quiet to ourselves, in which to collect our thoughts. I was affected by the strangeness and overpowering grandeur of the scenes around us; and it was for some time difficult to realise, that we were now actually within the very precincts of that Sinai, on which from the earliest childhood I had thought and read with so much wonder. Yet when at length the impression came with its full force upon my mind, although not given to the melting mood, I could not refrain from bursting into tears. We were soon put in possession of our rooms, and greeted with kindness by the monks and attendants. The priests and pilgrim who passed us on the way, had arrived some hours before us. Almonds were now brought, with coffee and date-brandy; and the good monks wondered when we declined the latter. Our servants and baggage arrived later; and having been drawn up in like manner, the former were installed in the kitchen near our rooms, under the auspices of an old man of more than

eighty years, our chief attendant. Supper was prepared in an adjoining room, chiefly of eggs and rice, with olives and coarse bread; the superior making many apologies for not giving us better fare, inasmuch as it was now Lent, and also very difficult to obtain camels to bring grain and provisions from Tur and elsewhere. Indeed, such had been the lack of rain for several years, and especially the present season, that all food and pasture was dried up, and camels were dying of famine in great numbers. Beshârah, on the way, heard of the death of a dromedary of his at home; and the one which we left behind on the road died a few days afterwards. It was well that we were to stop some days at the convent; for our camels were nearly worn out, and quite unable to go on."

Another extract will afford some idea of conventional life.

"We now repaired to the refectory, and were seated at the long table next below the priests, the lay brethren and pilgrims taking their seats still further down. The table was neat, and without a cloth: some of the larger vessels were of tinned copper; but the plates, spoons, basins, mugs, and porringer for drinking, were all of pewter. An orange and half a lemon lay by each plate, with a portion of coarse bread. After a grace, a large basin of soup or stew, made of herbs and a species of large shell-fish, was set on, from which each helped himself at will. This, with a few plates of olives and raw beans soaked in water till they sprout, formed the whole repast. The good monks seemed to eat with relish; and some of the very old ones set away their plates with the remains of these tit-bits in drawers beneath the table. During the meal the young monk or deacon, whom we had met with on the way, read from a small pulpit a sermon or homily in modern Greek, in praise of Chrysostom. On rising from the meal, a taper was lighted on a small table at the head of the room, around which all gathered, and a prayer was said over a piece of bread and a very small cup of wine. These were then carried around to all standing, every one (including ourselves) breaking off a morsel of the bread and tasting the wine. This was explained to us as a sort of love-feast, a mere symbol of the enjoyment of wine, of which the monks are not permitted by their rules to drink. The ceremony, however, has no reference to the sacrament of the Lord's supper, as has been erroneously supposed by some travellers. After this, on leaving the room, each one received separately the benediction of the superior, and we all retired to the adjacent ancient piazza, where coffee was handed round; the deacon following, and continuing his reading the whole time. There was a simplicity and seriousness during the whole repast and its accompaniments, which were quite pleasing."

From Sinai they travelled to Akabah; and this is a portion of their route:

"After stopping about half an hour at el-Arba'in, we proceeded slowly down the valley, without seeing the chapel and grot of St. Onuphrius, which are said by Pococke to be near the north end of the olive-plantation. In about twenty minutes we came to the rock

which they say Moses smote, and the water gushed out. As to this rock, one is at a loss whether most to admire the credulity of the monks, or the legendary and discrepant reports of travellers. It is hardly necessary to remark, that there is not the slightest ground for assuming any connexion between this narrow valley and Rephidim; but, on the contrary, there is every thing against it. The rock itself is a large isolated cube of coarse red granite, which has fallen from the eastern mountain. Down its front, in an oblique line from top to bottom, runs a seam of a finer texture, from twelve to fifteen inches broad, having in it several irregular horizontal crevices, somewhat resembling the human mouth, one above another. These are said to be twelve in number, but I could make out only ten. The seam extends quite through the rock, and is visible on the opposite or back side; where also are similar crevices, though not so large. The holes did not appear to us to be artificial, as is usually reported, although we examined them particularly. They belong rather to the nature of the seam; yet it is possible that some of them may have been enlarged by artificial means. The rock is singular one, and doubtless was selected on account of this very singularity as the scene of the miracle. Below this point are many Sinaite inscriptions along the rocks in the valley. Having Burkhardt's Travels with us, we compared some of his copies with the originals, and found them to be rather exact.”\*

The inscriptions in the Wady Mukattab lead to some new and interesting information.

“Here (says our author) they occur by thousands on the rocks, chiefly at such points as would form convenient resting-places for travellers or pilgrims during the noonday sun; as is also the case with those we saw upon the other route. Many of them are accompanied by crosses, sometimes obviously of the same date with the inscription, and sometimes apparently later or retouched. The character is every where the same; but until recently, it has remained undeciphered, in spite of the efforts of the ablest palaeographers. The inscriptions are usually short, and most of them exhibit the same initial characters. Some Greek inscriptions are occasionally intermingled. These inscriptions are first mentioned by Cosmas, about A.D. 535. He supposed them to be the work of the ancient Hebrews; and says certain Jews, who had read them, explained them to him as noting ‘the journey of such a one, out of such a tribe, in such a year and month,’ much in the manner of modern travellers. Farther than this, the most recent decipherer has as yet hardly advanced. When the attention of European scholars was again turned upon these inscriptions by Clayton, bishop of Clogher, about the middle of the last century, they were still attributed by him and others to the Hebrews on their journey to Sinai. Since that time they have usually been regarded as probably the work of Christian pilgrims, on their way from Egypt to Mount Sinai, during the fourth century. At any rate, the contents of them were already unknown in the time of Cosmas; and no tradition appears to have existed respecting their origin. As to the character, Gesenius supposed it to belong to that species of the Phenician, or rather Aramaean, which, in the first centuries of the Christian era, was extensively employed throughout

Syria, and partially in Egypt; having most affinity with that of the Palmyrene inscriptions. Professor Beer of Leipzig, on the other hand, who has quite recently deciphered these inscriptions for the first time, regards them as exhibiting the only remains of the language and character once peculiar to the Nabatheans of Arabia Petrae; and supposes, that if at a future time stones with the writing of the country shall be found among the ruins of Petra, the character will prove to be the same with that of the inscriptions of Sinai. According to this view, they may not improbably turn out to have been made by the native inhabitants of the mountains. Still it cannot but be regarded as a most singular fact, that here, in these lone mountains, an alphabet should be found upon the rocks, which is shewn by the thousands of inscriptions to have been once a very current one, but of which perhaps elsewhere not a trace remains.” \*

A large number of them have been copied and published by Mr. Grey, in the Transactions of the Royal Society of Literature, vol. iii. part i. Lond. 1832; consisting of one hundred and seventy-seven in the unknown character, nine in Greek, and one in Latin. The remarks of Gesenius upon the Sinaitic inscriptions are found in a note to the German edition of Burkhardt's Travels, *Reisen in Syrien, &c.* Weimar, 1824, p. 1071. The inscriptions have been first deciphered only within the present year (1839) by Prof. Beer of the university of Leipzig. This distinguished palaeographer had already occupied himself with them so long ago as A.D. 1833, but without success. See his tract entitled, *Inscriptiones et Papryi veteres Semitici quolquit, &c. partic. i. 4to. Lips. 1833.* In the winter of 1838-9, his attention was again turned to the inscriptions, in connexion perhaps with our reports and the residence of my companion for a time in Leipzig; and after several months of the most persevering and painful application, he succeeded in making out the alphabet, and was enabled to read all the inscriptions which have been copied with any good degree of accuracy. The results at which he has arrived are already prepared for publication, and the various tables engraved; so that his work may not improbably appear before these sheets leave the press. By the kind permission of Prof. Beer, I am able to give here a summary of these results. I ought, perhaps, to remark, that all those palaeographers to whom they have been communicated are satisfied of their correctness; and that especially some of the most distinguished have expressed to me in conversation their decided approbation of Beer's labours and views. The characters of the Sinaitic inscriptions Prof. Beer finds to belong to a distinct and independent alphabet. Some of the letters are wholly peculiar; the others have more or less affinity with the Palmyrene, and particularly with the Estrangelo and Cufic. Indeed, their affinity with the latter is so great, as to lead to the supposition, that the Cufic was afterwards developed from this alphabet. They are written from right to left. In their form, several of the letters much resemble each other, as is the case in other ancient alphabets. This sometimes creates considerable difficulty in deciphering an inscription, though not more than in the Cufic. But the difficulty is here increased by the negligence of the copyists, who have often not noticed the slight difference that actually exists. This is apparent from the different copies of the same inscription, which exist in several instances. The contents of the inscriptions, so far as Prof. Beer has yet proceeded, consist only of proper names; pre-

ceded by a word which is usually *שְׁמָה* *peace*; but sometimes *מְמֹרֵא* *memoriatus sit*; and in a very few cases *בָּרוּךְ* *blessed*. Between the names, the word *בְּ* or *בְּן* *son* often occurs, and they are sometimes followed by one or two words at the end; thus the word *בְּנֵי* *priest* occurs twice as a title. In one or two instances the name is followed by a phrase or sentence, which has not yet been deciphered. The names are those common in Arabic; but have this peculiarity, that most of those which are single end in a vav (ו), whether they are in the nominative or genitive case; while the compound names end in yodh (י). Thus we have *בְּנֵי יְהוָה*, *בְּנֵי אֱלֹהִים*; and also *אֱלֹהִים בְּנֵי*, *אֱלֹהִים בְּנֵי*. The Arabic article is frequent in the names, but has not always the alef (א) when in composition. It is a remarkable fact, that not one Jewish or Christian name has yet been found. The words which are not proper names seem rather to belong to an Aramaean dialect. A language of this kind Prof. Beer supposes to have been spoken by the inhabitants of Arabia Petrae, in other words, by the Nabatheans, before the present Arabic language spread itself over those parts; and of that language and writing, these inscriptions he regards as the only monuments now known to exist. The question as to the *writers* of the inscriptions receives very little light from their contents. A word at the end of some of them may be so read as to affirm that they were *pilgrims*; and this opinion Beer also adopts. But this reading is not certain; and the opinion is to be supported chiefly from the fact, that the inscriptions are found only on the great routes leading from Suez to Mount Sinai. The multitude of them in Wady Mukattab and around Serbal may be accounted for, by supposing that mountain, or some spot in its vicinity, to have been regarded as a holy place, though probably not as Sinai. That the writers were *Christians*, seems apparent from the crosses connected with many of the inscriptions. The same inscription is in several instances found in more than one place, once with the cross, and again without it. The crosses are of such a shape that they could not be accidental nor unmeaning, e. g. *Y* *T* *F*. The age also of the inscriptions receives no light from their contents, as no date has yet been read. On palaeographic grounds, Prof. Beer supposes the greater part of them could not have been written earlier than the fourth century. Had they been written later, some tradition respecting them would probably have existed in the time of Cosmas. The character of the writing also forbids this supposition. Thus far Prof. Beer; and thus far all is sufficiently clear. But there still remain some historical points of difficult solution. These Christian pilgrims, who were they? and whence did they come? The fact that all the inscriptions are found only on the great routes from Egypt, would seem to imply that they came from that country, or at least from the western side of the Gulf of Suez. But if so, how comes it that no trace of this alphabet and language is found in Egypt or its vicinity? Egypt too, we know, was full of Jews and Christians in the early centuries; how comes it, then, that no Jewish nor Christian names are found among the inscriptions? It is true that the heathen proper names continued to be used long after the introduction of Christianity, as we see from the names of the early fathers and bishops; but this will not account for the entire absence of Christian and Jewish names among such hosts of pilgrims coming from Egypt. On the

\* “Not so Pococke's copies, in which there is hardly a trace of resemblance; nor are those of Niebuhr much better.”

other hand, were these pilgrims Nabathaeans, Ishmaelites, Saracens, the native inhabitants of the peninsula and of Arabia Petrae in general? The heathen names and the language and writing would lead to this conclusion. But then, how comes it that all the inscriptions are on the western side of the peninsula, and not one upon the eastern? Besides, there is no historical evidence that any native Christian population existed in or around the peninsula in the early centuries; but rather the contrary. The Christian exiles from Egypt, and the hermits of these mountains, lived in constant exposure to slavery or death from the heathen around them. Again, how comes it that in the time of Cosmas, about A.D. 530, all knowledge of this alphabet and language had already perished among the Christians of the peninsula, and no tradition remained respecting the inscriptions?

In the Travels of Irby and Mangles, a fact is mentioned which deserves further examination from travellers. In the vicinity of Wady Musa, on the left-hand side of the track leading to the village of Dibdiba on the north, this party found upon a tomb, with a large front and four attached columns, an oblong tablet containing an inscription 'in five long lines, and immediately underneath, a single figure on a large scale, probably the date.' They describe the letters as 'well cut, and in a wonderful state of preservation, owing to the shelter which they receive from the projection of cornices and an eastern aspect.' None of the party had ever seen these characters before, excepting Mr. Banks, who, upon comparing them, found them to be exactly similar to those which he had seen scratched on the rocks in the Wady Mukatteb, and about the foot of Mount Sinai.' This inscription they copied; but it has never been made public, and still lies in the portfolios of Mr. Banks. See Travels of Irby and Mangles, pp. 411, 412, 413. When we were at Wady Musa, I was not aware of the position of this inscription, and the circumstances in which we were there placed prevented our finding it. In Cairo I was told that similar inscriptions exist in the immense ancient quarries back of Tura just above Cairo; and also in the granite quarries of Aswan. It was said also, that they had been copied by travellers; but nothing of the kind has ever been made public."

(Connected with this subject, and so immediately brought to interest the public by very recent advices, we have much pleasure in throwing a farther light upon these important Asiatic measures.—*Ed. Lit. Gaz.*)

#### NAVIGATION OF THE EUPHRATES.

A short time ago there appeared in the newspapers a brief statement of the arrival of two steamers at Balis, on the Euphrates. Our readers, who all along had full and complete accounts of the Euphrates expedition, will be glad to hear of the successful termination of this enterprise. It will be remembered that, after the loss of the Tigris steamer, the Euphrates attempted the ascent, but failed on account of her deep draught of water, which amounted to three feet, while the Tigris only drew eighteen inches. Colonel Chesney and the officers of the Euphrates, having returned to England, the charge of the steamer left was entrusted to Captain Lynch, of the Indian navy, who, between that period and the present, effected two very remarkable exploits: first, the ascent of the river Tigris as far as close to where it receives the Great Zab, and where he was not stopped by want of water, but by the force of the current; the second was, to take the steamer from the river Tigris to the Euphrates, by the most

northerly of the canals on the alluvial plain of Babylonia. In the accomplishment of this latter task, the paddle-boxes were sometimes both suspended over hard and dry ground.

Government, however, never abandoned the original undertaking; and between that period and this no fewer than four iron steamers, of light draught of water, and constructed for river-service, have been sent out to the Euphrates; but unfortunately with inefficient crews, or the ascent of that great river would have been before attempted. Two of these steamers (we believe the Nilocris and Semiramis) have now accomplished what puts beyond all doubt the long-voiced question, as to the possibility of navigating the river Euphrates.

We are not, at the twelfth hour, going to run over again the important commercial and political advantages, and, still more, the great advantages to progressive civilisation, which the opening of such a navigation offers to Great Britain, and to sympathising humanity, wherever it is to be found. Let us hope that, while other nations are talking of these things, England will be doing them.

We have it in our power to mention one or two curious little facts in connexion with the progress of these events. The successful result of the mission sent by the Society for Promoting Christian Knowledge to the patriarch of the Chaldean Christians in Kurdistan, and which mission sprang out of the Euphrates expedition, has not failed to awaken the greatest interest among all to whom the fate of the Eastern Christian nations possesses the slightest attraction; but it influenced still more strongly the opposing churches of the New World, one branch of which had already a very extensive mission at Urinjeh in Persia, and close to the Chaldean mountaineers.

Two missions have, in consequence, reached Mosul this spring and summer. The first is composed of two reverend gentlemen with their wives, one of whom is to remain at the Mesopotamian capital, the other is to take up his residence in the mountains. These parties are Congregationalists; and a third (Dr. Grant), who has already distinguished himself by his labours among these interesting people, has lately left Constantinople, also on his way to the same field of good works.

In the meantime the Episcopalian mission from the United States has not been inactive among Christians, with whom it especially feels called upon to ally itself in brotherly and religious affections, since they belong to one of the oldest apostolical churches in the world, and one which has not protested against, for it has never been tainted or corrupted by Romish heresies.

We learn, by our own private advices, that the Rev. Mr. Southgate, of the U. S. Episcopal Church, and known by his travels in eastern countries, has arrived at Mosul, and is in hopes of inducing a Chaldean bishop to return with him to visit his brethren of the New World.

In this activity for the welfare, and wish for the friendship, of the Chaldeans, which has suddenly sprung up, England has alone been slow in her operations. Mr. Rassam is now her Majesty's vice-consul at Mosul, where he will do all that is in his power to keep up the friendly alliance which was established by the mission, of which he was a member. A learned and reverend divine of Oxford has, we have heard, offered his services to visit the mountaineers; and for them, as for all classes of Christians in the East, we sincerely hope that the residence of a bishop in the Mediterranean Sea will be replete with many advantages.

The next interesting fact that it is in our power to communicate concerns more general civilisation; and it is to the effect, that a gentleman, also connected with the Euphrates expedition, and holding an official situation at Baghdad, has had sent over to that place various of the latest improvements in agricultural implements, and among those especially a number of ploughs, a press for cotton, &c. &c. These he intends to bring into full operation, with the assistance of natives only; as also improved means of irrigation: besides which, he is going to introduce the cultivation of cotton and sugar, for both of which the country is admirably adapted. These movements are calculated to have a great effect upon those countries with the progress of time.

We have been led into this momentary digression concerning the advance of civilisation in Western Asia, from having read this week a letter, running the round of the newspapers, from one of the officers of the steamers engaged on the Euphrates, who, in the feelings naturally suggested by their triumphant success, calls attention to the prospects now held out in the East, and truly exclaims, "may civilisation, flying on the wings of commerce, carry with it the blessings of the Gospel of salvation!"

We would beg leave, however, in relation to this letter (which has appeared in Liverpool journal, and been copied generally by the press), to set the public right upon a few facts. The Yezidis are not, as has been canonically stated by the Christians of the East, worshippers of the devil, nor of a peacock; but they are, among all Orientals who are not Christians, those who are most open to receive its saving light.

The names of almost every place noticed in the letter are calculated to mislead. Perisalom is Perisabor; Pylor of Xenophon, Πύλας, *Pyle*, of Xenophon; Euri is Erzi, or Ezra; Thapsacus is not at Al Der the monastery, but at Al Hammam, near Rakkeh; Raccaba is Rahabah, the Rehoboth of the Scriptures; Tenobia is Zenobia.

The crusaders can scarcely be expected to have extended their power to Jaber, when they were so often defeated at Harran, which is not more than twelve miles from their stronghold, Edessa. And the Taurus is at a much greater distance than the writer appears to imagine, when he says, the distant Taurus re-echoed the royal salute fired at Balis, or Baulus, as he writes it—the ancient Barbillus. He thinks that the river may be navigated to the heart of Taurus. This is not so improbable as may appear at first sight. The cataracts of Samotos, noticed by Pliny, are rapids of no importance; and there are only five rapids, one of them a fall of a few feet, between Ergan Kaleksi and Malatiyah. The new iron steam-boat, which passes the rapids on the Danube above Orsovar, perhaps overcomes as great obstacles.

*Guy Fawkes; or, the Gunpowder Treason. An Historical Romance.* By W. H. Ainsworth, author of "The Tower of London." 3 vols. Bentley.

GUY FAWKS having, according to a fashion of the day which is being carried to an excess very unfavourable to legitimate literature and publication, appeared in successive numbers of Bentley's widely read Miscellany, does not present us with the novelty we could have desired

\* Under the circumstances we have not thought it necessary to print the letter—at any rate this week.—Ed.

in such a performance. The effect of every production of the class must be greatly weakened by this piecemeal mode of procedure; and we know of no author more likely to lose by it than the author of the *Tower of London*. Vigorous action is his very element; and yet we have to halt at every mile-stone on his road. His race, which, like his own Turpin's, is one dashing, energetic, breathing gallop, overleaping hurdles, hedges, and turnpike-gates, is impeded as often as the periodical interposition of lets and hindrances demands; and instead of our being carried onward, from beginning to end, in a glowing and impetuous rush, we are condemned to pause at every corner, and check our enthusiasm at every pause.

But these objections lie to the manner, not to the matter of *Guy Fawkes*; and are rather forced upon us by the increased pleasure we have felt in being able to go through the whole at a swoop, without having the interest disconnected and broken into patches, which, however striking, failed to impress us with the stirring and intense interest of the entire narrative.

The period chosen, and the incidents of the treason which it embraces, cannot be surpassed for tragic power within the scope of English history. The delineation is therefore, to all intents and purposes, strictly a historical romance; only made a romance by the skilful introduction of fictitious characters, and the representation of the conspirators and real personages in scenes in which they never appeared, but which merely develop their actual sentiments and deeds in dramatic forms. That some of these scenes are bloody, is true—but the times were bloody; and he who paints them must not use transparent water-colours. Mr. Ainsworth has not exaggerated them; but from their own fearful impress has deduced, and with a very impartial judgment, the grand lesson of religious toleration. Of all religions, he has shewn us that political religion is the worst; and of all sects and professions, the persecutors of others the most estranged from true Christianity. We would not, like him, quote Ligard's History for the genuine aspects of the age of James the First, without also shewing that the Smithfield-fires of Mary and Elizabeth were alike atrocious; and that the despotism of James was mild and hurtless in comparison with the sacrifices of human life during the reigns of his predecessors. This, however, did not fall within the sphere of the object he had in view; and it must be acknowledged that he has treated it with equal impartiality and talent. It was difficult to steer his bark through the conflicting tides of polemical and factious rancour; but he has accomplished it bravely. The bigot, on either side, alone may attempt to censure his course: the unprejudiced and just will join with us in applauding the consistent integrity of purpose which he has manifested throughout.

From the circumstance to which we have referred, of the previous appearance of *Guy Fawkes* in a widely circulated magazine, we will not repeat any portion of the story in our pages. But on the republication of so popular a work in a substantial and entire shape, we should not have done our duty, if we had not, in a general way, expressed our conviction of its excellence. The life and death of Viviana Radcliffe are worthy of Mr. Ainsworth's highest efforts. His Catesby and Fawkes are admirable portraits of these mistaken and unhappy men. His court of James, with the monarch at its head, is ably drawn; and his inferior agents, especially the gaolers, torturers, the gaoler's daughter Ruth, the Jesuits, the other conspi-

rators, &c. &c., are all made to play their parts with force and truth; and the business never flags for an instant, till the fatal curtain is dropt upon the well-conceived, the well-constructed, and the well-acted drama.

Before concluding, we ought, perhaps, to mention the dedication to the venerable Mrs. Hughes, the friend of so many of the distinguished *literati* who have flourished amongst us during the last half century, and including among them the lost Scott, and, alas! the more distressingly lost Southey. And also the highly humorous illustrations by George Cruikshank.

*The Pie-Nic Papers, by Various Hands.* Edited by C. Dickens, Esq., author of "The Pickwick Papers," &c. 3 vols. Colburn.

The name of Captain Boz at the head of a band of compatriots, whose roll-call incorporates some of the most popular writers of the day, is amply sufficient to carry this publication into vogue, without our blowing the trumpet for it among the recruits. It is a work, however, to which, for every reason, we wish the utmost success; and its light and agreeable pages, by so many various contributors, will make it equally welcome to the autumnal idlers and to the circles of those who stay at home. By seaside and fireside it must please the most fastidious; and, as a fit sample, we copy a tale by Thomas Moore.

"*THE STUDENT OF BAGDAD.*"—'What news from the khalif's army?' asked the young student. His question was addressed to a grave and venerable politician, whom he found seated by his side, enjoying the cool of the evening, under a portico of the great college Al Mostanserial at Bagdad. 'Gloomy enough,' answered the stranger; 'our troops are flying in all directions from the conqueror, Holagu.'—'And what, then, mean those shouts and sounds of rejoicing through the city?'—'They are for our last defeat, which the khalif's minister (whom Allah bless!) declares, as he values his honour and his place, was no defeat at all, but a victory. He has accordingly ordered the inhabitants of Bagdad to rejoice, which they are now doing with the worst grace imaginable.'—'How wise are the descendants of Abbas!' thought the youth to himself. 'But,' he resumed, 'the Tartar will soon be at your gates: does not the khalif mean to arm the inhabitants?'—'Allah forbid!' exclaimed the old gentleman, who belonged to the established sect of the Sonnites; 'what! trust a hair of our orthodox heads to fellows who disbelieve the Chapter of the Blanket! You are a stranger, young man, or you would have known us better?' The student on this wished the pious Sonnite a good evening, and retired to his lodgings. The name of this youth was Niali. He had left Europe under the banners of the saint-king Louis, and had done honour to the red branch he bore on his shield, at the battles of Al Mansurah and the Ashmun, in the latter of which the monarch himself was taken prisoner. When St. Louis, however, (having purchased back his sacred person from the Mussulmans, at a price which few kings have been worth to their subjects), concluded a peace with Azzod-din Aybec, and returned to France, young Niali, who had rather more taste for learning than was common among his brother crusaders in general, resolved to visit the schools of the East, and to exchange the pious task of murdering heathens for the somewhat more useful one of studying and improving by them. \* \* \*

'Put up those books,' said the student to his Arab servant, 'and meet me early in the morning at Masud's villa.' This villa was a small

rural retreat on the banks of the Tigris, which belonged to Masud, his venerable preceptor, and to which the youth often fled for coolness during the sultry nights of that climate. The sun had just set, and the modest Arabian jambines, which had kept the secret of their fragrance to themselves all day, were now beginning to let the sweet mystery out, and make every passing breeze their confidant. To some minds the hour of sunset brings a feeling of sadness, and a Laplander might well be allowed a little pensiveness on such an occasion. But to judge by the gaiety with which he now rowed his boat down the Tigris, this was by no means one of Niali's weaknesses. Not that there was any thing beyond pleasant remembrances to give his spirits such buoyancy at this moment; but his had ever been that rare and happy kind of imagination which retains the impressions of past pleasure, as the Bologna stone treasuring up sunbeams. He was now arrived in sight of the little villa of Masud; and the mild moonlight that fell upon every object becalmed the whole scene into such bright and beautiful repose, as gave a tone of softness even to the wild spirits of Niali. Not far beyond this villa was the palace of the emir Al Omera, the most favourite counsellor of the khalif, and chosen, like most other favourite counsellors, for his great zeal and courage in recommending measures which he saw his master had fully determined on in his own august mind already. But the chief point on which this emir prided himself was the superior excellence of his seraglio and his library; and it was acknowledged, indeed, that in all Bagdad there was no such taste, collector of beauties and books. But whether the youth directing his course? He has already passed the humble villa of Masud, and is now gliding under the shadows of the Egyptian willows which hang from the lofty terrace of Al Omera's seraglio. Is it the wild beauty of the evening that tempts him so far? or is he indulging in contemplation of the fair planet Venus, which is just now shining with that half-retired disk which astronomers inform us is the loveliest of all her phases? Before these questions can be answered with any certainty, we must return to some important events, not undesignedly, behind us. In going up the hill, says the poet Dante, the hinder foot should always be the firmer; and certainly, in the up-hill work of narrative, the hind foot of the story cannot be too firmly planted. One morning during the Nevrouz, or festival of the spring, having risen with the sun and walked into the gay shining lawn that sloped from his study to the river, Niali observed along the grass, which was still wet with the night-dew, the prints of a foot so small and exquisitely formed, that he could have sworn it must belong to some spiritual being, did he not know how rarely mortals leave traces of themselves behind. Surprised at this phenomenon, he followed the direction of the footstep, and could track them up close to the lattice of a small pavilion where he frequently studied at night. From thence they returned, and continuing for some time by the side of the river, were wholly lost at the entrance of a deep and dark wood, which divided the grounds of Masud's villa from the walled gardens of the seraglio. \* \* \* It was little more than mid-day, when, for the second time, the fair Halute directed her course with a beating heart towards Masud's lawn. The heat was excessive; every eye that could afford it was shut up in sleep, nor was there at that moment a single man of fashion awake in all Bagdad. The only sounds that broke on the stillness, as she passed with languid step

cross the lawn, was a faint laugh now and then from a distant group of peasant girls, who were taking advantage of that hour of repose to bathe under the shade of the tamarind-trees, in the clear waters of the Tigris. She looked anxiously towards the pavilion—it was now silent and empty; but a sort of instinct whispered to her to try the dark alley of times on the right. This path opened upon a small lake, which now lay basking in the full splendours of noon, while the verdure around slept coolly under the shadows of the encircling trees. The source of this lake was a marble fountain, almost hidden among the limes, from which the water stole with a clear but loitering current, as if half afraid to encounter the sunshine that wanted so boldly over the lake. The deep basin in which the stream thus fingered on its way looked clear and motionless as a mirror; and by its side lay young Niall, in a light dreamy sleep, his cheek resting against the marble, whose pale inanimate hue was contrasted strikingly with the fresh glow of his manly features. Haluta's heart beat high, as well with apprehension as with hope, while she wrote on a tablet the following verses, and tremblingly hung them from a branch of the tree which formed the canopy of his resting-place:—

He that was content to look  
At the moonlight in the brook,  
To reward his humble view,  
Saw both brook and moonlight too;  
While the proud, aspiring elf,  
Who would view the moon herself,  
Fell into the brook before him,  
Ere he saw the moonlight o'er him.  
Dost thou love as mile of joy?  
Seek it in the fountain, boy.  
Look not up, or thou shalt miss  
Present smile and future bliss.

The rustling sound caused by Haluta in placing these verses had somewhat loosened the bonds of sleep; and scarcely had she time to fly and hide herself among the lime-trees, when the young student awoke. His first movement, on seeing the tablet, was to look anxiously round for the writer of them. But she was too well shaded within the foliage for even her bright eyes to betray her; and no sooner did she perceive that he had read the verses, and that, obeying almost unconsciously their mandate, he bent his head down over the water, than, with a palpitating heart, she stole from her concealment; and, stepping on a rustic bench immediately behind him, looked down over the liquid mirror, with a smile whose reflection, like Greek fire, burned unquenchably through the very waters. The young student started with astonishment; and was just on the point of forgetting the warning of the verses, when Haluta, gently laying her hand upon his head, said, with a voice sweet as the song of promise,

Look not up, or thou shalt miss  
Present smile and future bliss;

and then, flying through the lime-tree walk, like an antelope, scarce touched the grass of the lawn, and was once more in the gardens of the seraglio. 'Oh, Plato!' exclaimed the student, as he returned thoughtfully to his lone pavilion, 'if, as thou sayest, whatever of good or lovely we see in this world be but the shadow, the softened reflection of something glorious above us, let that smile which I have just seen be the exemplar of all my thoughts; and, as I gaze upon the passing stream of life, be it my lot to have always such bright eyes thus peeping over my shoulder!'

The volumes are capitally embellished with humorous designs by G. Cruikshank.

#### D'ISRAELI'S AMENITIES OF LITERATURE.

[Second Review.]

We do not know that the public will enter so warmly into the next topic discoursed upon by Mr. D'Israeli as we do; but yet it is one of very general interest, and especially of a literary nature; for it treats of "Early Writers, their Dread of the Press; and the Transition (since so higly increased) to Authors by Profession." *Mutato nomine*, much of the statement is curiously applicable to the condition of authors and publishing in our day.

"At the close of the reign of Elizabeth (says Mr. D.), the public, awakening at the first dawn of knowledge, with their stirring passions and their eager curiosity, found their wants supplied by a new race of 'ready writers,' who now teased the groaning press—a diversified race of miscellaneous writers, who had discovered the wants of the people for books which excited their sympathies and reflected their experience, and who caught on their fugitive pages the manners and the passions of their contemporaries. No subject was too mean to be treated; and had domestic encyclopedias been then invented, these would have been precisely the library the people required: but now, every book was to be separately worked. The indiscriminate curiosity of an uneducated people was gratified by immature knowledge; but it was essential to amuse, as well as to inform: hence that multitude of fugitive subjects. The mart of literature opened, and with the book-manufactory, in the language of that primeval critic, Webbe, of innumerable sorts of English books, and infinite fardles of printed pamphlets, 'all shops were stufled.'"

The cheap and nasty, therefore, is no novelty in our literature; and fardles of promiscuous verbiage were endured by our great-great-grandsons. "It has (continues our author) been attempted to fix on the name of that great patriarch, the Abraham of our Israel, who first invented our own book-craft; but it would be indiscreet to assign the honour to any particular person, or even to inquire whether the cupidity of the book-vender first set to work the ingenuity of the book-weaver. Who first dipped his silver pen into his golden ink, and who first conceived the notion of this literary alchemy, which transmutes paper into gold or lead? It was, I believe, no solitary invention; the rush of 'authors by profession' was simultaneous." As it is now, though the game is so depressing and desperate, that few succeed and live, and the multitude starve and perish. Mark the contrast. "Former writers had fearfully courted fame; they were the children of the pleasures of the pen; these were a harder race, who at once seized on popularity; and a new trade was opened by the arts of authorship. In the primitive age of publication, before there existed 'a reading public,' literary productions were often anonymous; or, which answered the same purpose, they wore the mask of a fictitious name, and were pseudonymous; or they hid themselves under naked initials, by which means the owners have sometimes lost their own property. It seems a paradox that writers should take such great pains to defraud themselves of their claims. This coyness of publication was prevalent among our earliest writers, when writing and publishing were not yet almost synonymous terms. Before we had 'authors by profession,' we had authors who wrote, and seemed to avoid every sort of publicity. To the secluded writers of that day, the press was arrayed with terrors

which have ceased to haunt those who are familiar with its daily labours, and our primeval writers trembled before that halo of immortality, which seem to hang over that ponderous machinery. Writers eagerly affixed their names to polemical tracts, or to devotional effusions, during the melancholy reigns of Edward the Sixth, and Mary, as a record of their zeal, and sometimes as an evidence of their voluntary martyrdom; but the productions of imagination and genius were yet rare and private. The noble-minded hardly ventured out of the halcyon state of manuscript to be tossed about in open sea: it would have been compromising their dignity, or disturbing their repose, to submit themselves to the cavils of the cynics; for even at this early period of printed books we find that the ancient family of the *Malevoli*, whom Terence has noticed, had survived the fall of Rome, and here did not find their 'occupation gone.' With many scholars too, it was still doubtful whether the vernacular muses in verse and prose were not trivial and homely. In the inchoate state of our literature, some who were imbued with classical studies might have felt their misgivings, in looking over their 'gorgeous inventions,' or their 'pretty devices,' as betraying undisciplined strength, bewildering fancies, and unformed tastes. They were not aware, even at that more advanced period, when a series of 'poetical collections' appeared, of what they had already done; and it has been recently discovered, that when the printer of 'England's Helicon' had innocently affixed the names of some writers to their pieces, to quiet their alarms he was driven to the clumsy expedient of pasting slips of paper over their names. This was a spell which time only dissolved, that great revealer of secrets more deeply concealed."

Mr. D. describes London in its then limited bounds and movements, but advancing in many ways; and he proceeds with his more immediate subject.

"A metropolis thus rising from its contracted infancy, extending in growth, and diversified by new classes of society, presented many novelties in its crowded scenes; mutable manners, humorous personages, all the affectations or the homeliness of its citizens. Many writers, among whom were some of admirable genius, devoted their pens to fugitive objects and evanescent scenes, sure of finding an immediate reception from the sympathy of their readers. New modes of life, and altered manners during a lengthened peace, brought men into closer observation of each other; the ranks in society were no longer insulated: their haunts were the same localities, the playhouse, the ordinary, and Paul's Walk. There we find the gay and the grave—the disbanded captain—the critic from the inn of court—fantastic 'fashion-mongers'—the coney-catcher who watches 'the warren,'—and the gull, 'town or country,' a term which, unlike that of 'the coney-catcher,' has survived the times before us, and is imbedded in the language. They even touched on the verge of that last refinement in society, critical coteries. We learn from Jonson, that there was 'a college of critics,' where a new member, 'if he could pay for their suppers,' might abuse the works of any man, and purchase for himself 'the terrible name of a critic,' and ladies 'lived free from their husbands,' held coteries, and 'gave entertainments to all the wits.' This was the incipient state of the new world of manners, and what we now call 'society'; and society provokes satire!'"

Are the late dinners of our time ever equivalent to these ancient critical suppers? We

hope not. The age is amusingly illustrated by the following:—

"In the history of literature the names of sovereigns usually only serve to mark its dates; and an 'author-sovereign,' to use Lord Shaftesbury's emphatic expression, can exercise no prerogative, and yields even his precedence. In more than one respect James the First may form an exception, for the barest list of his writings alone might serve to indicate the age; their subjects were not so peculiar to this monarch's taste as they were common with higher geniuses than his majesty. When on the throne of England, it was deemed advisable to collect his majesty's writings, the honour of the editorship was conferred on Montague, bishop of Winton, whom Fuller has characterised as 'a potent courtier,' and the courtly potency of the prelatical editor effuses itself before the 'majesty of kings' in the most awful of all prefaces. Cavillers there were, who, on distinct principles, objected to a king being a writer of books, carrying on war 'by the pen instead of the pike, and spending his passion on paper instead of powder.' This was a military cry from those whose 'occupation had long gone.' Others, more critically nice, assumed that, 'since writing of books had grown into a trade, it was as discreditable for a king to become an author as it would be for him to be a practitioner in a profession.' Such objectors were not difficult to put down; and the bishop has furnished an ample catalogue of 'royal authors' among all great nations; and, in our own, from Alfred to Elizabeth. The royal family of James were particularly distinguished for their literary acquirements. As that was the day when no argument could be urged without standing by the side of some authority, the bishop had done well, and no scholar in an upper class could have done better; but this bishop was imprudent, his restless courtliness fatigued his pen till he found a divine origin of king-writing! 'The majesty of kings,' he asserts, 'is not unsuited to a writer of books,' and proceeds—'the first royal author is the King of kings—God himself, who doth so many things for our imitation. It pleased his divine wisdom to be the first in this rank, that we read of, that did ever write. He wrote on the tables on both sides, which was the work of God.' This was in the miserable strain of those unnatural thoughts and remote analogies which were long to disfigure the compositions even of our scholars. How James and the bishop looked on one another at their first meeting, after this preface was fairly read, one would like to learn; but here we have the age!"

To the strong affection which King James evinced for literature and literary men, Mr. D'Israeli bears honourable testimony; and shews how unjustly the cuckoo-note name of pedant-king has been applied to him, the admirer and patron of Shakspere, Ben Jonson, Bacon, Tycho Brahe, Sidney, Herbert, Usher, Father Paul, and other men eminent in their own and our times.

In another chapter, entitled "The War against Books," there is an entertaining history of the Stationers' Company, from which we must take a sample:—

"The stationers were in fact a Spanish inquisition for the cabinet of Philip and Mary, and whom the queen consulted on critical occasions; for her majesty once sent for the warden, to inquire whether they had seen or heard of a sort of books sent from Zurich? The war against books was never pushed to such extremities as in a proclamation of Philip and

Mary, which Strype calls, 'a short but terrible proclamation.' Here we learn, that 'whoever finds books of heresy, sedition, and treason, and does not forthwith burn the same without shewing or reading them to any other person, shall be executed for a rebel!' It is evident, that the grant of this incorporation was designed to make the interests of the company subservient to those of the court; for, by the intermediate aid of the vigilant stationers, every printer would be controlled, since none were allowed to be printers who were not members of this corporation, and therefore amenable to its laws. In the succeeding reign of Elizabeth every thing changed, except these state-proclamations, in the war against books. The object had altered, but not the objection; for though the books were different, the Elizabethan style is identical with the Marian. The same plenary powers of the stationers were strengthened by an additional injunction, by which the government held the whole brotherhood with a closer grasp. The company were commissioned not only 'to search into bookbinders' shops, as well as printing-offices, for unlawful and heretical books,' but they were responsible for 'any unruly printer who might endanger the church and state,' and 'who for covetousness regard not what they print, whereby ariseth great disorder by publication of unfruitful, vain, and infamous books and papers. None shall print any manner of book, except the same be first licensed by her majesty by express words in writing, or by six of her privy council.'\* When we recollect that the stationers' company under Mary were composed of the very same individuals who two years after under Elizabeth were busily ornamenting their shelves with all their late 'seditious and heretical' books, and in removing out of sight all their late lawful and loyal ware, this transition of the feelings must have placed them in a position painful as it was ridiculous. But the true genius of a commercial body is of no party, save the predominant; pliant with their interests, a corporation, like a republic, in their zealous union, can do that with public propriety which, in the individuals it is composed of, would be incongruous and absurd. The rage of government in this war against books was still sharper at a later period, provoked by the spread of the Mar-prelate pamphlets. A decree of the star-chamber in 1586, among other orders, allows no printer to have an additional press without license; awards that there shall be no printing in any obscure part of a house; nor any printer out of the city of London, excepting at the two universities; and till 'the excessive multitude of printers be abated, diminished, or by death given over,' no one shall resume that trade; and that the wardens of the stationers' company, with assistants, shall enter at all times warehouses, shops, &c., to seize all 'letter-presses, and other printing instruments, to be defaced, melted, sawed in pieces, broken or battered at the smith's forge.' Amid all this book-phobia, a curious circumstance occurred. The learned could not

prosecute their studies for the prohibition against many excellent works, written by those who were 'addicted to the errors of popery in foreign parts,' and which also contained 'matters against the state of this land.' In this dilemma, a singular expedient was adopted. The archbishop allowed 'Ascanius de Renaissance, a merchant-bookseller, to bring into this realm some few copies of every such sort of books, upon this condition only, that they be first brought to me, and so delivered only to such persons whom we deem most meet men to have the reading of them.' At this time it must have been an affair of considerable delicacy and difficulty to obtain a quotation, without first hastening to Lambeth Palace, there to be questioned! Printing and literature, during the long reign of Elizabeth, in spite of all these star-chamber edicts, amazingly increased; there seemed to be a swell from all the press. Of 175 stationers, 140 had taken their freedom since this queen's accession. 'So much had printing and learning come in request under the Reformation,' observes our historical antiquary Strype. And such was the proud exultation of the great printer John Day, that when he compared the darkness of the preceding period with what this publisher of Fox's mighty tomes of *Martyrology* deemed its purer enlightenment, he never printed his name without this pithy inscription to the reader, 'Arise, for it is DAY!' Books not only multiplied, but unquestionably it was at this period that first appeared the art of aiding these ephemeral productions of the press which supplied the wants of numerous readers. The rights of authors had hitherto derived a partial existence in privilege conceded by the royal patron, but it was now that they first gathered the fuller harvests of public favour. We shall shortly find a notice among the book-trade of what is termed 'copyright.'"

And with this we are reluctantly forced to close our extracts from and remarks upon these interesting volumes; which we need hardly recommend to a literary public, as every page must recommend the whole to the favour and acceptance it so richly deserves.

#### MISCELLANEOUS.

*The Graveyards of London: being an Exposition of the physical and moral (qy. immoral) consequences inseparably connected with our unchristian and pestilential custom of depositing the Dead in the midst of the Living, &c. &c. By George A. Walker, Surgeon, author of "Gatherings from Graveyards," &c. Pp. 46.*

Longman and Co.

On behalf of Mr. Walker's former appeal to the public on this vitally important subject, the *Literary Gazette* joined issue; and to the utmost of its power seconded and enforced his unanswerable arguments, founded on statements of the abominations arising out of the existing practice. The present is a sequel worthy of its precursor, and containing besides Mr. Walker's evidence before a select committee of the House of Commons, pointing out the horrible and disgusting consequences of burial in crowded churchyards, and vaults under churches, in the very midst of our densest population. But though the press with almost one voice has denounced the system, it continues to be very slightly affected by the use of suburban cemeteries;\* and we have only to point, by one strong fact, to the perpetuation of the crying evil.

\* We have heard the expenses attending the re-opening of the ground stated as a reason why these are less sought.—ED.

In direct opposition to the decisions of parliamentary committees, and the opinions of all medical men, and in contradiction to common sense and the feelings of humanity, the ten new churches building, and about to be built, in the densely populous parish of Bethnal Green, are each to have a burying-ground attached. One of these churches and its burial-ground were consecrated by the Bishop of London a short time ago; and so we shall have ten modern Golgothas established in the worst possible situations, and whilst acts of parliament are passing to enforce ventilation and cleanliness among the lower classes living around. Oh, this is an enlightened age!

*The Christian Remembrancer: a Monthly Magazine and Review.* Vol. I. January to June. London, Burns.

STRONGLY Protestant, like all Mr. Burns' publications, this collected volume recommends itself to attention by a number of articles of great value, whether viewed in a mere literary or more important religious light. We lament to see so much controversy in our days; but that with Romanism and the reformed Church, episcopacy and dissent, intrusion and non-intrusion, our table is almost daily disturbed with some work of difference, and too often of bigotry, hypocrisy, and malevolence.

'Tis true, 'tis pity; pity 'tis, 'tis true.

#### ORIGINAL CORRESPONDENCE.

To the Editor of the *Literary Gazette*.

Oxford, August 16.

MR. EDITOR.—In the number of your journal for August 7, under the head of "Proceedings of the Chemical Section of the British Association," after giving a report of certain papers by Mr. De Moleyn, you proceed to state, "Professor Daubeny remarked, that Mr. De Moleyn's communication was of great importance." Now I beg to assure you, that whatever estimate I may have formed as to the value of Mr. De Moleyn's communication, was necessarily limited to the first part of it, relating to the principle called Ozone, which he stated to have been isolated by himself in considerable quantity, and which I therefore hoped he would next submit to chemical examination.

With regard to the second portion of his communication, relative to a "voltaic combination of extraordinary energy," although I should be sorry to create a prejudice against any invention which may hereafter come before the public, yet I feel myself bound to protest against being represented as having expressed any opinion as to the importance of an instrument, upon the construction and powers of which the section was left entirely without the means of deciding.

I remain, sir, your obedient servant,  
CHARLES DAUBENY.

#### GEOGRAPHY A LA CHINOISE.

To the Editor of the *Literary Gazette*.

SIR.—In a note at foot of the first page of your last number (1282), I find the following: "But these antediluvian monsters seem to be the prototypes of fable, superstition, and romance.—*Ed. Lit. Gaz.*"

The perusal of this has revived a former fanciful notion of mine—could the dragons and monsters of various kinds, so frequently depicted in the Chinese porcelain, screens, drawings, &c., be traced to a belief in the former existence of prototypes of such monsters? The Chinese, I believe, consider the age of the world to be about thirty thousand years. Would not this calculation embrace the period when, according

to modern science, these fossil reptiles might have had their existence? In a word, have the Chinese had their Cuviers, Bucklands, Owens?

Excuse this vagary of

#### IGNORAMUS HONG KONG.

How curious it would be, if we should be looking over the delineations on our China vases, teapots, &c., to improve, by a reference to five-clawed dragons, our ideas of the personal appearance of Messieurs the Plechthysauri, Ichthyosauri, Iguanodons, &c. &c.!

#### ARTS AND SCIENCES.

##### BRITISH ASSOCIATION.

[Fourth notice.]

SATURDAY, with the exception of a meeting of Section A., was given up to "pleasuring." One party set out to explore the mines near Tavistock, the Elvan dykes, and granitic masses of Dartmoor; another sought the beauties of the Tamar, in boats obligingly furnished by men-of-war in the harbour, and landed at Cothele, Calstock, and the Weir-head; and a third steamed off to the Eddystone Lighthouse, to have a near view of that striking edifice. From the various reports on their return, all seemed to have been highly gratified—the miners were bemuddled to their hearts' content—the river-rovers were charmed with the romantic scenery of the Tamar,\* and the antiquarian attractions of Cothele—and the more adventurous voyagers bore the evils of a roughish sea with all the possible composure and dignity becoming in philosophic affliction. Of Cothele we can personally speak as a most interesting treat—a dwelling of very early times, and filled with a collection of furniture, ranging, we should say, over some three centuries antecedent to the glorious days of good Queen Bess.

At the preceding *soirée* on Friday night, Mr. Chatfield delivered an instructive lecture on Ship-launching, which, with models and explanations, prepared the hearers to witness the launch of the Hindostan of 80 guns, on the Monday, with a clearer understanding of the process of lifting the huge mass, and floating her into her natural element.

After this brief preamble, our business is to conclude the Report of Friday's Sectional proceedings, which our giving priority to the important papers of Monday in our last double sheet disabled us from including, but which, from the pressure from without, we are still obliged to postpone, whilst we finish the report of Monday.

On Saturday, as we have mentioned, Section A. sat alone in its high philosophic glory; and the following was the list of its papers:—

##### SECTION A.—Mathematics and Physics.

###### Papers and Communications.

1. Mr. Baily's "Report on Reduction of the Stars in the *Histoire Céleste*."
2. Mr. Baily's "Report on Extension of Astronomical Society's Catalogue."
3. Colonel Sabine's "Report of Committee appointed to superintend the Translation and Printing of Foreign Scientific Memoirs."
4. "Notice of a Meteorological Journal for the Year 1840, kept by John Campbell Lees, at Nassau, New Providence."

##### MONDAY.

##### SECTION A.—Mathematics and Physics.

###### Papers and Communications.

1. Professor Kelland's "Report on Heat."
2. Mr. De Moleyns "On a New Voltaic Combination of extraordinary energy."
3. Professor Phillips "On the Internal Temperature of York Minster."
4. Sir David Brewster's "Report on the Action of Gases, and other Media, on the Spectrum."
5. Rev. Professor Lloyd "On the Phenomena of Thin Plates in polarised Light."

• Ta-mar or mor, the great Ta, into which the Ta-ty or vechan, the little Ta, flows.—*Ed.*

6. Mr. Snow Harris's "Further Account of the Working of Whewell's Anemometer, erected at Plymouth."

7. Mr. Bateman "On the Use of the Sliding-Rule; with an Account of some New Lines proposed for it."

The few introductory remarks by Professor Whewell, submitting Report No. 1, will suffice to shew the way in which, when the author is not present, the abstracts, if they may be so styled, of the Reports called for by the Association, are unavoidably delivered to the Sections; and to confirm the good judgment of our determination to do little more than refer to our readers to the speedily forthcoming "Transactions" for the full particulars. Abstracts, however extended, will scarcely convey a sufficient knowledge of the contents of the Reports, themselves for the most part a brief, though comprehensive, digest of the progress and point attained in any branch of science—themselves, with regard to the many, mere abstracts of the various publications, English and foreign, on the particular subject, though admirably drawn up, and exceedingly valuable as collated data for the information of, and as a starting point for, the future inquirer, and of consequence to be prized as a whole, but of little use abbreviated. The exceptions to this view are those practically rendered—we mean those Reports which depend on the personal experimental investigation of the reporter. We scarcely need quote as an example, that "On the Fossil Reptiles of England," to which last week we devoted so much space, nor further comment on the value of such an abstract.

Professor Whewell, with regard to No. 1, observed that Professor Kelland's paper was long and mathematical, and therefore it may be readily conceived not proper to be read wholly; he had had it but a short time, not sufficient for him to become master of the subject, and he would therefore proceed to read a few of the more striking passages. The Report was directed to the relative state of experimental and mathematical knowledge on the subject of the conduction of heat; to the experiments already made which require repetition, and those which are necessary to complete the comparison of theory and experiment. But the heads under which the results were classed differed somewhat. They were, first, what was the present state of knowledge as to the phenomena of conduction; secondly, the state of experimental investigation upon which the conclusions of theory rest; and, thirdly, the utter inadequacy of the few experimental facts to serve as a basis of a true theory, or as an indication of a false one. The number and nature of the latter are exceedingly defective; and the direction of further and new experiments were pointed out. Professor Kelland theoretically adopts all the results of Fourier's law, whose formulae are quite accurate, and applicable to physical phenomena; but differs in this, that the flow of heat is proportional not to the difference of temperature, but to the difference of two exponentials of the temperature. This exponential function, it will be remembered, Professor Kelland at Glasgow proposed to express by the term "thermature," which would be the real measure of calorific, whilst temperature would be that of its effect on the thermometer. For the voluminous data, for the results and deficiencies of experiment, and for the reduced formulæ, it will be readily seen, a reference to the Transactions will be necessary.

Mr. De Moleyns exhibited a single cell of a voltaic arrangement without the exciting liquid element. He described it as a combination of extraordinary energy; but, of course, to all but to himself this was, as the Scotch term is, "not proven." His *viva voce* communication

embraced the various important improvements which the galvanic battery had undergone in the hands of Wollaston, Hare, Faraday, Bécquerel, Daniel, Mullins, and Grove; and pointed out what the speaker conceived to be the defects of the more recent. With regard to his own late invention, termed the "Caloric Sustaining Battery," he represented it as one of immense force in a small compass, and of trivial cost. The approach to description was as follows: the metals employed—zinc and platinum, the zinc unamalgamated; no nitric acid employed; and the quantity of zinc destroyed comes not near to the power attained. But mystery enveloped the means. The communication, we conceive, was not a scientific one in its literal sense; and, as a subject of a prospective patent, should have been rejected by the Committee of the Section.\*

The chairman, Professor Phillips, being engaged elsewhere, called upon Professor Stevelly for Sir David Brewster's Report (No. 4). This was a mere reference to the progress of the subject-matter, which, however, in its completion, promised positive and most interesting results. The receipt from Munich of a series of arrangements for a prismatic cylinder for magnifying the effects of solid and fluid media on the solar spectrum, was acknowledged.

Professor Phillips observed (with reference to No. 3), that he had been engaged on the investigation of the mean temperature of York; the result of which he had desired to confirm by ascertaining the temperature of the springs of the neighbourhood—the mean of which gave  $48^{\circ} 2'$ . The spring in the cathedral of York was somewhat higher, and this led him to inquire what was the temperature of the air in the church. He submitted a series of observations, extending over a period of 40 months, illustrated by a diagram, shewing the general result—the mean temperature of the air in the interior of the church as compared with the external air. It exhibited a retardation of the points of mean effect of 13 days of the former in relation to the latter; and other curious results considered worthy of further experiments.

Professor Sylvester suggested circumstances which might have modified the effect (the thermometer having been placed near to the roof or near to the floor); and pointed out the advantage of the employment of several indifferent positions for the attainment of more correct results.

Professor Lloyd remarked on the interest of this class of observations as deserving a further examination, and as analogous to those on subterranean temperature; and on the desirability to ascertain the epoch of maximum and minimum effect in relation to the exterior and interior temperature, as well for the diurnal as for the annual change.

Dr. Robison felt the importance of the inquiry as bearing upon an astronomical question, in which some observers took the temperature of the air exterior to the observatory, others of that of the interior, and others the mean. The investigation brought forward by Professor Phillips, and which he recommended to be extended, he conceived would be valuable to establish the isothermal planes in the church, or the planes in which the temperatures arrange themselves.

Professor Lloyd explained the phenomena of thin plates in polarised light: he has added to the theory of Fresnel, and determined the quantities of polarised light reflected and refracted. The class of results obtained by Prof. Lloyd

afford a key to the phenomena of elliptical and circular polarisation, and has an important bearing on the undulatory theory of light. The surface of metals producing elliptical polarisation, he conceives, acts on the incident rays similarly to thin plates of unequal densities.

Mr. Snow Harris's further account of the working of Professor Whewell's anemometer, erected at Plymouth, and under his charge, was illustrated by a graphic delineation of the wind for twelve months. This was the only machine which could indicate "what the wind was about in a given time," the ordinary anemometer shewing the amount of pressure only. He explained the method of the working of the machine, and the mode of delineating; and he exhibited and described an apparatus, consisting of a circular fan of feathers, to traverse a wire with equal velocity with the wind; whereby he proposed and hoped to discover the velocity of the wind in a given time, and, taking the velocity in feet, the mean of an hour, and comparing it with the space the pencil of the anemometer will have travelled over, to succeed in giving a definite value to the indications of the machine. The line drawn from point to point of the delineation, if the true resultant, gave the prevailing wind from S.E. to N.W. at Plymouth. Of this line, as exhibited on the chart, being the resultant of the several courses, some doubts were entertained. The getting, however, the quantity, together with the direction of the wind, was no small point gained. Mr. Snow Harris also described a portable pressure anemometer, which he exhibited, and pointed out the sources of error which might arise from not giving sufficient attention and allowance to the greater or less density of the air. He also spoke to the utility of Lynn's wind-gauge.

A long conversation ensued, turning principally on the resultant of the lines on the chart; on the mode of obtaining the unit of the machine; and on the constancy or inconstancy of the unit, if obtained; or, in other words, whether the unit would be the same for all localities.

Professor Whewell addressed the Section at some length, commenting on the able hands into which, fortunately for him, his instrument had fallen, and on the willing spirit with which the observations had been conducted. With regard to the points of the discussion, he considered that the clear way to give the result was not by a line through the reduced and projected delineations of the year's observations, but that some portions also of the curves should be taken into account. He strongly urged the necessity to determine the unit of the machine; and although he thought some difficulty would attend the working of Mr. Harris's proposed plan, he conceived that the result obtained would be a good approximation. He suggested the use, for this purpose, of wheels moving with known and uniform velocity; and urged the importance of determining the unit of the machine, and whether the instrument was constant, or the unit varying.

Professor Phillips staled for consideration the circumstance of the known velocity of the motion of a railway-carriage, as an assistance to the investigation.

Mr. Ostler had made an instrument for the purpose, had gone to Liverpool for the express object, and had taken pains in his observations. The results corresponded with the table printed some years ago by Dr. Lynn; so that he did not think this mode of inquiry worthy of prosecution. He dwelt on the desirability of correcting each instrument for the locality, because the amount of wind at one place may not be the

same at another. The wind, for instance, may be compressed by the obstacle of an intervening hill, become crested, and proceed with a greater velocity. Locality he believed to be an important element.

Professor Stevelly advocated the line in question (the resultant, not the *boundary-line*), as the true result of the year.

Col. Sabine asked Mr. Ostler what was the indication of the prevailing wind at Birmingham.

By the mean of the results, the prevailing wind for Birmingham was S.W. Mr. Ostler, with regard to the true reading of the result of the anemometer, thought that every course should be separately gone through; that the whole lines for the whole annual observations, and for all points of the compass, should be cast up; and then from the totals of each wind the proportional quantity might be obtained. Taking a line from the minimum to the maximum, he considered not at all a correct indication.

Mr. Snow Harris observed, that the lines in the chart will give the result demanded by Mr. Ostler. They were worked to 10ths of an inch, and the days of the month are given.

The paper No. 7, which we give in furtherance of the object for which it bears evidence of having been brought forward, was illustrated by a sliding-rule with a radius of eight feet, being the largest size yet graduated, and some expensive and beautiful apparatus. Mr. Bateman said he was desirous of bringing the attention of the members to the construction and use of the common sliding-rule, in the hope of eliciting some suggestions which might be useful in the common affairs of life. He then explained the nature of logarithms, and the cause and mode of their application to the sliding-rule; after which an additional or supplementary graduation, which has lately been made on the lines A and B, was illustrated. The lines C and D were then referred to. The line D has always a radius (and consequently a power) double that of the line C; and therefore when the lines C and D are set together (1 on C to 1 on D), they form a table of squares and roots—C being a series of squares to D, and D a series of square roots to C; and hence when the sliders are moved, we are enabled to work with what are called *gauge-points*, which are, in fact, the square roots of numbers that in common arithmetic would be used for reducing one kind of magnitude into another kind. For example—in an imperial gallon there are 277.274 cubic inches. If this quantity be divided by 785.4 (the proportion between a circle and a square), we obtain the number of cubic inches in a circular gallon (253.0362); and this number being used as a divisor, will reduce any given number of cubic inches contained in a cylindrical vessel into gallons. Now the diameter of every circle is the square root of its circular divisor, and the square root of the circular divisor, just referred to, is 18.7893, which is called the circular gauge-point for gallons; for, using this as a starting-point, we can, by the lines before us (C and D), ascertain the proportion between it and any other circle; or, in other words, ascertain the content of any cylindrical body which can be compared with a circle whose area is one gallon. The operation on the sliding-rule is this: supposing a cylinder to be 31.5 inches long, deep, with a diameter of 22.3 inches—

D 18.789 gauge-point 22.3 diameter.

C 1 31.5 length 44 gallons content.

\* See elsewhere a Letter from Professor Daubeny, received since writing our Report.—Ed. L. G.

to cask-gauging, a subject which has occupied the attention of some of the first mathematicians for centuries. By the usual formula for calculating the content of casks, we have first to find a mean between the bung and head diameters—such a mean as shall reduce the cask into a cylinder—and then we ascertain the content by the lines C and D, by the operation just explained. Revenue-officers, who (as a body) are doubtless the best practical gaugers, consider every cask to be the middle frustum of a spheroid; and when any cask obviously varies from that form, they make such an allowance or addition, in taking the dimensions, as (according to their judgments) fits it to a spheroidal form. And on their instruments they have gradations which, by a simple process, enable them to find a mean between the bung and head diameters of any spheroidal cask; and, having found such mean, they use it as if the cask was thereby reduced to a cylinder. Thus, if a hog's head of Cape were 31.5 inches long, bung 23.6, head 19.6, they would find by their variety-lines that the mean diameter of a such a cask of a spheroidal form is 22.3. Then, as before,

D   G.P.	22.3
C   31.5	44 galls.

Many attempts have been made to shorten this operation, by obtaining the content at one setting of the rule, and without the previous process of finding the mean. Dr. Young came the nearest in this respect. He invented four lines, an account of which was published in the *Journal of Science*, vol. xvi., and an explanation of which appeared in the *Mechanics' Magazine*, No. 182; and instead of the formula being, as in the old method,  $C = \frac{LM^2}{333.04}$ , it was  $C = \frac{LM^2}{333.04}$ ;

and his new lines were graduated accordingly, the content being found by the following very simple process:—

Bung   123.6	
Head   19.4	
Length   31.5	
Content   44 galls.	

But Dr. Young fell into an error, which has been common with almost all scientific men who have not been practical gaugers. He fell to speculating about the *forms* of different casks, instead of attending to the mode of calculating the content of that form which had been universally adopted. And as he fixed upon a form which was wholly unknown to the officers of the revenue, they could make no use of his proposed lines; and I am not aware that his invention was ever brought into practical use. It is, in fact, so little known, that a line for answering the same purpose has recently been put forward, as if it was an entirely new invention. Mr. Woolgar, of Lewes, F.R.A.S., has lately invented a line of *special gauge-points* applicable to the heads and bungs of casks, according to their respective lengths and differences, and which he published in the *Mechanics' Magazine*, No. 849. This line he calls X. The proper gauge-point for any particular cask is found by means of the lines A and B. Where these lines correspond, *i.e.* where the head and bung are equal, the gauge-point is that of a cylinder, 18.789. In proportion as they differ, the gauge-point increases. Whatever it is, when found it is used upon the lines C and D in nearly the same manner as the circular gauge-point already described; but with this disadvantage, that the gauge-point being movable, it is liable to be forgotten. The operation (as explained in Bateman's *Excise Officer's Manual*) is this: supposing the cask before us to be spheroidal, and the dimensions, as before—

A   19.4 H	19.9 special G.P.
B   23.6 B	1
C   31.5 L	44 galls. content.
D   19.9 Sp. G.P.	23.6 B.

This line was rejected by the revenue-officers because it required a double setting of the rule, and a mode of working to which they were not accustomed. It is, however, very ingenious and beautiful; and if not adapted for cask-gauging in its present form, its principle is applicable to numerous other calculations; and it deserves to be generally known. All that is wanting by the practical cask-gauger is the completion of Dr. Young's lines, applied to casks of a spheroidal form, *i.e.* a *graduation for finding the content of a spheroidal cask at one setting of the rule*; and I indulge the hope, that, by making this want known to the Members of the present Section, some gentleman may be induced to turn his attention to the subject, and supply the long-felt desideratum. And if the lines could be so arranged as to shew the content of the cask when on *ullage*, it would add greatly to their value.

Mr. Bateman then shewed the shortest mode of finding the content of casks by the pen and sliding-rule. He also explained some lines called SS, SL, and MD; and offered some suggestions for their improvement, and the extension of their application.

#### SECTION B.—Chemistry and Mineralogy.

1. 'Practical Method of determining the Quantity of Indigo in the Indigo of Commerce,' by Dr. S. Dana, of Lowell, Massachusetts, U.S.

2. 'Abstract of a Letter from Professor Liebig.'

3. 'Some Experiments, shewing the Possibility of Fire from the Use of Hot Water in warming Buildings, and of Explosion in Steam-engine Boilers,' by Mr. G. Gurney.

4. 'On the Disintegration of the Dolomitic Rocks in the Tyrol,' by Dr. Daubeny.

5. 'On the Causes of the Destruction of Modern Copper-Sheathing,' by Mr. Prideaux.

6. 'New Extemporaneous Process for the Production of Hydrocyanic Acid for Medical Purposes,' by R. D. Thomson, M.D.

Belonging to this Section, we have already stated the substance of Professor Liebig's letter, and his dissent from the opinion of Dr. Brown, of Edinburgh, that carbon and silicon were convertible (see *Literary Gazette*, 1281). The letter contained an account of a white crystalline substance procured from lichens, to which the name of *Orcine* has been given. Also an account of some experiments on the legumen in beans, which prove that this body is identical with the casein in the milk of animals. This communication also contained an excellent method, by Drs. Will and Varentrapp, of detecting nitrogen in organic bodies.

The communication from Dr. Dana was to the effect, that the indigo being dissolved by means of carbonate of soda and muriate of tin, it is precipitated by means of the bichromate of potash. It is then washed with diluted muriatic acid, filtered, dried, and weighed; the weight of the precipitate giving the weight of pure indigo.

A paper by Mr. Goldsworthy Gurney was then read. It detailed a number of very curious experiments, which went to prove that steam under high pressure was partially decomposed; and that, in a state of gaseous vapour, it was capable of heating the iron flues to such an extent that linen was charred, gunpowder fired, and fusible metal fused by it. Mr. Gurney suggested the use of fusible metal in some parts of the pipes as a preventive of fire; for, melting when the flues became too highly heated, it would allow the escape of the vapour, and, of course, assist in cooling the pipe.

Dr. Daubeny's paper followed. In this communication the author attempted to explain, without resorting to volcanic agency, the abrupt form, extraordinary height, naked outline,

and fissured surface of the dolomitic rocks of the Tyrol. He attributed the above circumstances to the slow rate at which decomposition proceeds in rocks consisting of pure dolomite, and the strength of the cohesion which binds together the particles of this rock; owing to which, even those portions which stand prominent, in consequence of the removal by the agents of destruction of their contiguous parts, often remain unaffected by those mechanical forces, which would cause the projecting portions of a rock less unyielding in its nature to become detached. The cause, therefore, of the greater height maintained by the dolomites of the Tyrol than by the pyroxene rocks which accompany them, seems to be the inferior rate at which decomposition has proceeded in the former; whilst the bold and jagged outline they display may have been produced by the tenacity with which their parts cohere. The sterile character of these same rocks, even in parts which are not precipitous, appears to be owing to the slowness with which they decompose, as well as, perhaps, to the absence of organic remains. The professor concluded with some suggestions as to the means of fertilising rocks containing magnesia, where, from the slowness of their decomposition, they continue sterile; and proposed, in such cases, to accelerate the rate of disintegration, by pouring upon the subsoil diluted sulphuric acid.

Mr. Prideaux read the next paper, "On the Destruibility of Modern Copper-sheathing;" and gave a comparative analysis of five select samples of sheathing, compared with two others by Sir H. Davy and Mr. R. Phillips, three of them having worn remarkably well, and three others having been rapidly destroyed. These did not elucidate the cause; some of the purest having suffered the most, whilst neither the nature nor quantities of the alloying metals bore any proportion to the durability of the others; the worst of all, and the best but one, being nearer alike in composition than any of the rest. The analyses were shewn in a table. Neither did the physical properties—as hardness, tenacity, grain in fracture, nor colour—present more consistent relations to the wear; the specific gravity only coincided with the durability, the two most durable being also the heaviest. (The samples were shewn.) Hence he had recommended the rolling of the sheathing to be finished cold, both to give it more pressure, and to harden it against friction. Not finding the causes of waste in the chemical or physical qualities of the metal, samples of each, of equal surface, were kept immersed, under parallel conditions, in sea-water sharpened with sal ammoniac, and the loss of weight of each ascertained. This did not at all coincide with the waste at sea; the most durable having suffered the most, and the least loss having occurred to one of those which had been most rapidly destroyed. (The proportions were given in a table.) Hence the cause of waste seemed to be rather in external circumstances than in the properties of the coppers. Of these external causes:—the sheathing usually wasted most about the water-line, and down by the bows and the rudder, where it suffered the wash and froth; plainly from friction and oxidation. The bottom was less injured in deep waters; but washed, when liable to ground upon black mud, by the sulphureous and other corrosive exhalations. The Eddystone tender appeared to suffer in this way. The nails seemed to exercise an electro-chemical influence, in proportion to the great metallic surface they presented both to the copper and the salt water. This influence had been very apparent on the

Jane, a schooner of Mr. Moore's, on which the copper was quite sound round some of the nails, though the rest of the sheet was perished; whilst round others the copper was much worse than in other parts of the same sheet. All the nails he had tried were electro-negative to the copper; and on immersing equal copper-slips from the same sheet in the same sea-water, in contact with different nails, they had been differently acted on: most of them having lost more than a slip to which no nail was affixed; but one having lost less, that nail having exercised a protective influence, whilst all the others had been destructive. (The proportions were shewn in a table.) He recommended that nails should always be made protective, so far as was compatible with their own durability, as the most convenient mode of chemical protection. The increased velocity and activity of merchant ships must subject them to increased wear; and this activity will expose them more to stress of weather, still increasing the waste by friction. It is known that the copper suffers most in hot climates, where the vessels are also most subject to electrical discharges; heat and electricity being both excitors of chemical action. The Acorn, which had undergone many heavy thunder-storms on the African coast, had lost 16 per cent of her copper in  $2\frac{1}{2}$  years. The waters of different seas might contain different proportions of corrosive ingredients. The Plover and Jane had their copper about the water-line, &c. marked with uniform punctures, as if by organic action. Samples had been obtained from different seas, and tried by the immersion of equal slips of the same copper. That from the Gulf-stream had wasted the copper much more than the others. (The proportions were shewn in a table.) But after allowing for all these external causes, the defect seems too often to be in the copper itself. The Eddystone tender and Quarantine cutter both lie most of their time in Catwater; the copper on the former came to patch in three years; the latter is still very good after nine years' wear: a difference too great to be accounted for by the former occasionally touching the mud. The Tartar frigate had her copper completely destroyed in four years, without ever leaving Sheerness harbour. But it seemed to little purpose to proceed with comparative analyses, until the different characters of the coppers have been proved by their wear under similar circumstances. For this purpose he recommended that vessels should be sheathed with different coppers on their two sides, all fastened with the same nails. Thus the shipwright would learn whose copper he could best confide in, whilst supplying the chemist with materials for ascertaining the causes of the difference in quality. Meanwhile he recommended the nails to be made slightly electro-positive to the copper, as a chemical preservative; and coal-tar laid on hot upon the copper also heated, as a mechanical protection against friction. The Eddystone tender had her water-line, &c. fully protected by a mere coat of seal-oil; and Mr. Moore's Jane had most strikingly shewn the protective quality of coal-tar by the perfect preservation of the lines over which coal-tar had trickled, whilst the rest of the sheet was quite destroyed. This specimen was exhibited on the table. The Jane had been sent to sea with her two sides differently sheathed, and her forequarters varnished hot with coal-tar.

The last communication was on a "New Extemporaneous Process for the Production of Hydrocyanic Acid for Medical Purposes," by Dr. R. D. Thomson.

#### SECTION C.—Geology and Physical Geography.

1. Prof. Owen's "Report on British Fossil Reptiles."
2. Mr. Sanders exhibited Railway Sections between Bath and Bristol.
3. Mr. Strickland exhibited Specimens of Cardinia Agassiz."
4. Dr. E. More "On a Raised Beach under Plymouth Hoe."

We have anticipated this Section in our last, and had the pleasure of publishing Professor Owen's Report, confessedly the grand and distinguishing feature of the year's meeting.

#### SECTION D.—Zoology and Botany.

1. Mr. Gray exhibited Glove-Leather prepared from the Skin of the Fetal Rein-Deer, by tanning with Birch Bark; and Dr. Theophilus Thompson Specimens of Lepidotes, from the River Gambia.
2. M. E. de Selys Longchamp "On the Periodicity of Birds."
3. "A Comparative View of Animal and Vegetable Physiology," by G. Bartlett.
4. Report of the Committee for the Illustration of the Geographical Distribution of Plants and Animals.
5. Rev. W. Hore "On the Botany of Devonshire."
6. Mr. Derry "On some Vegetable Monstrosities."
7. Dr. Lankester "On Deposits from the Existence of Infusoria."

The last paper is the only one we can at present report, and the others need only brief notices.

Infusoria invisible to the naked eye often became the source of large deposits at the bottoms of ponds, rivers, and lakes. This had been satisfactorily proved by Ehrenberg, who had found fossil infusoria, in large quantities, in various strata of the earth. The process of depositing these animals is constantly going on. They frequently possessed hard external shells, which resisted decay; and most of them were very short-lived. They were best observed where the deposits are coloured. In chalybeate springs, a deposit of a yellow ferruginous colour was always observed existing first in mucus-like masses at the bottom of the water. This was formed by an animal called the *Gallionella ferruginea*. On the banks of the Annan, when the waters were low in autumn, the stones looked as if they were white-washed, from a deposit on them: the author had found this to arise from the presence of a minute animalcule, the *Lynedra ulna* of Ehrenberg. Around the sides and at the bottoms of the sulphureous wells of Harrogate there existed a beautiful rose-coloured sediment; also a pink sediment in the waters at Moffat. The author had found these to depend on the presence of two new species of animalcules. There was every reason to believe, that red snow depended on animalcules, and not on plants, as heretofore supposed. Green deposits arose from the presence of *Cecaria viridis*. Several other animalcules were referred to, occurring in large numbers, and producing copious deposits: many of them coloured the waters previous to being deposited. In most instances where water assumed suddenly a different colour, it might be traced to the existence of infusoria.

#### SECTION E.—Medical Science.

Papers read:—

1. "Statistical Report of Patients of the Plymouth Public Dispensary, during the Years 1838, 1839, and 1840," by Samuel Derry.
2. "Observations on a Pustular Disease, hitherto undescribed by Writers on Diseases of the Skin," by Professor A. T. Thompson, M.D.
3. "Extraordinary Case of Albuminous Ascites, with Hydatid," by Sir David H. Dickson, M.D.
4. "Facts as yet unnoticed in the Treatment of Squinting," by James Vose Solomon.
5. "General Observations on the Pathology and Cure of Squinting," by John Butter, M.D., F.R.S., &c.
6. "On the Cure of Asthma," by J. Q. Rumball, Esq.

At length the medical staff assembled; but, as might be expected, the papers were not of a kind to claim extended public notice, though several of them were interesting to the profession.

#### SECTION F.—Statistics.

1. A Letter from Mrs. Davies Gilbert, "On the Economical Results of Spade Husbandry."
2. "On the Agricultural Products of Cornwall," by C. Lemon, Bart.
3. "Report on the State of the Population in Hull," by Messrs. Langdon, Greg, and Romilly, of Manchester.
4. "Report on the Educational Statistics of Bristol," by C. B. Fripp.

The president (Lieutenant-Colonel Sykes) on taking the chair, called on the Rev. L. Luney, who read a letter from Mrs. Gilbert, of Eastbourne, Sussex, and the widow of the late Mr. Davies Gilbert, "On the Economical Results of Spade Husbandry," proving that it was in consequence of the system having been partially adopted in the neighbourhood in which she resided, that the poor-rate of the parish had been materially reduced, and the condition of the labourers considerably improved; and strongly recommending the adoption of the system on a more extended scale. No discussion ensued on the reading of the letter, but the president offered some observations in commendation of the desire evinced by Mrs. Gilbert to promote the good of her fellow-creatures; highly eulogising that lady for submitting her opinions and the result of her experience to the Association: and he further expressed a wish that her example would be followed by others of her sex.

Sir Charles Lemon then read his paper "On the Agricultural Products of Cornwall," completely reported in our last *Literary Gazette*.

Dr. Bowring expressed himself much pleased with the report, particularly that portion which referred to the consumption of food, there having hitherto been no accurate return of the consumption of bread in any part of the country, and consequently they had been unable to build with confidence any theory on the subject of consumption. In France, on the contrary, very accurate returns on such subjects were made. He hoped that Sir Charles Lemon's example would be generally followed, as a great service would be thereby rendered to science.

In answer to a question from Sir Charles Lemon, Dr. Bowring stated that the consumption of bread in some parts of France was thirty times greater than in other parts of the same country.

After a few general observations, the Rev. S. Rowe observed that barley-bread was consumed by a large portion of the labouring classes in Devon. He would beg to ask, whether the consumption of that kind of bread was general amongst the same class in Cornwall.

Sir Charles Lemon replied, that about six or seven years since an exceedingly small portion of barley-bread was consumed in Cornwall; but since the price of wheat had so much increased, the labouring classes had reverted to the partial consumption of barley-bread. Very little, however, was consumed, because they preferred wheaten bread, finding they could work better upon it.

Mr. Heywood then proceeded to read "A Report on the State of the Population in Hull," by Messrs. Langdon, Greg, and Romilly, of Manchester. The Report stated that an individual, highly qualified for the task, had been engaged to visit every house to which he could gain admittance. He had, however, been denied the information he required by a great many of the inhabitants, some of whom conceived the inquiry had some reference to the establishment of a constabulary force throughout the country, the proceedings of the chartists and socialists, the government plan of education, &c. &c. They had, however, succeeded in collecting much valuable information;

and the questions put were of the following nature:—The name of the parent or of any independent individual, the occupation of the adults,—partly or wholly out of work. With reference to the children now under instruction, the following questions were put:—The number of those who have never attended any school,—those who attend a day, or evening, and Sunday-school,—day or evening school only,—Sunday-school only,—regular instruction at home,—attendance regular or irregular, the occupation of minors. Questions of the same nature were put with reference to those who had been formerly instructed. From the Report it appeared that the condition of the inhabitants of Hull generally was better than those of Manchester, or the other great manufacturing towns. The rents were lower, the streets cleaner, and the houses better ventilated. Upwards of one-fifth of the working classes were destitute of books; and there appeared to be a want of proper accommodation in the sleeping apartments of a great number of this class, as it was found that very many slept three in a bed, and there were several instances in which from six to eleven had slept together! The Report having been read, some remarks were made on the importance of information of this description, bearing as it did upon the happiness and condition of the people, and tending to the promotion of a vast deal of good amongst the poorer classes.

Mr. C. B. Fripp then read "A Report on the Educational Statistics of Bristol," in which it was stated that there were 598 schools in Bristol, and that the number of children receiving instruction was 21,864. There were no fewer than 7000 children in the Sunday-schools alone. There had been that increase in the number of schools since 1830; and upwards of £1,000,000. was annually paid for the instruction afforded to children in the schools,—a larger sum than was allowed by the state for the education of the five or six millions of children in the country! A very large number of children also received instruction in this city in various free and charity-schools.

SECTION G.—*Mechanical Science.*  
1. Mr. Hearder "On a Modification of Arnott's Stoves."  
2. Report "On Railway Constants," by Edw. Woods.  
3. "On Capt. Couch's Chock-Channels," by W. Snow Harris.  
4. Report "On the Steam-Engine Constants Indicator," by Prof. Moseley.  
5. "On the Water-Power at the Wheal Friendship Mines," by John Taylor.  
6. "On the Thames Tunnel; with an Account of its Present State," by Sir Isambard Brunel.

Mr. Hearder of Plymouth, on a modification of Dr. Arnott's stoves, claimed no merit for originality of invention, having merely carried out the modification of these stoves principles familiar to scientific men. One of the improved stoves was exhibited; and Mr. Hearder explained wherein the modification consisted, and alluded to many of the objections against Dr. Arnott's stoves, which were obviated in the improved ones. Many objections against this description of stoves, however, Mr. H. believed frequently resulted from the inferior manufacture of them, or their being placed in improper positions.

Mr. J. Scott Russell presented a voluminous Report on railway constants, by Mr. Edward Woods (referred to in our notice of Dr. Lardner's Report on the same subject on Thursday), and gave the Section an abstract of the Report. The matter contained in this document was generally very similar; but in some respects the results of experiments were more lucidly given, and one or two points were more definitely stated. The question to be decided was,

whether the direct resistance to a train had been discovered; it having been stated that from 6 to 8 lbs. a ton was the constant railway resistance. The result of an experiment, tried to obtain the evaluation of resistance at different velocities, was as follows:—

6 lbs.	to a ton at a velocity of $\frac{1}{2}$ miles per hour.
8 lbs.	" " $\frac{22}{3}$ "
12 lbs.	" " 26 "
16 lbs.	" " 29 "

Shewing a ratio increasing very nearly as the squares of velocity. The Report also stated that the result of an experiment on a line on which the gradient varied from 1 in 177 to 1 in 650, the mean velocity of ascending and descending was very nearly a constant quantity. From this conclusion had been drawn, but with that conclusion Mr. R. desired not to be identified, that a number of carriages could be conveyed over a railway, whose gradient ranged within the limits specified, in the same time as over a perfect level of the same length. Experiments were tried, and the mean speed on a level was 30.93 miles an hour, the valve being kept nearly in the same position, and the mean speed up and down was 31.22 miles an hour; being a difference of only 0.29. These were the three only points on which there was any difference between them and those in the former Report, or which had in this Report been better elucidated.

Professor Moseley alluded to the difference of expense in the consumption of fuel consequent upon the ascents and descents.

Mr. Brunel regretted that he had not had an opportunity of hearing the former Report; but he apprehended there was no material difference between it and the one just read. He understood that Mr. Russell did not hold himself responsible for the results arrived at; and he was therefore sorry that the authors of the Reports were neither of them present. He confessed, had they been, he should have felt disposed to offer his observations rather in the shape of an attack, as a practical man. He expressed his surprise that in 1840 any gentleman should even have spoken of the resistance of 6 or 8 lbs. a ton as a railway constant. The size and shape of the wheel, the proportion of the load, and other matters, were all so many circumstances upon which the amount of resistance must depend. How could such, therefore, be called a constant? What had been stated as the results of the experiments was also most extraordinary. If it was correct, he could only say the Great Western Railway was doing four or five times its proper work. It was well known that, with 50 tons, the train would run 45 miles an hour. From the practice of the Great Western Railway trains, he was forced to suppose that there was some peculiar diminution of resistance to the trains, which he knew was not the case, or that these constants were erroneous. He said, as a practical man, and as such only he desired to offer his remarks, that any attempt to obtain the amount of resistance while going down inclined planes, would be perfectly futile. The friction also of a carriage depended on its being kept perfectly central; and in going down an inclined plane, it was invariably thrown out of square; the resistance was therefore greatly increased; consequently, when at the bottom, in speed it could not be precisely the same as if propelled in the ordinary way. A correct datum had not, therefore, been given: it was not the same as if the carriage were pulled centrally, and on an even line. With respect to the effect of gradient, Mr. B. expressed his belief that the inferences which Mr. Woods had drawn were incorrect. He repeated, that he was surprised that in 1840 such things should be advanced;

and he should think that any theoretical man, when he arrived at such results, ought to suppose that there was something wrong, they being so much at variance with the results of practice.

Mr. Russell and Mr. Webster severally eulogised Mr. Woods for the general fidelity and exactness of his calculations.

Mr. Brunel said, with respect to the facts which that gentleman had advanced, as truths which were valuable, but the inferences were erroneous.

Mr. Rendell urged, that continued experiments should be tried, and upon the general working plan. He was glad to find that practical and theoretical men were more united than formerly; they were brought more into contact. This was one of the benefits effected by the British Association.

Mr. Russell hoped that satisfactory results would be obtained by means of an anemometer.

Mr. Brunel stated, that no instrument had yet been invented, from which a correct register could be obtained.

Mr. W. S. Harris exhibited and explained a model of Captain Couch's Chock-channels. After alluding to the various disasters that had taken place, which were solely attributable to the construction of the old channels, Mr. Harris described the nature of Capt. Couch's improvement. The inventor had proposed to make the channels solid, and fastened to the ship by a bolt, which, if necessary, might be unclenched, when the whole would fall off, and thus the danger to be apprehended from the old channels would be avoided. Mr. H. also stated, that some misunderstanding had existed between the Admiralty and the inventor, and they had taken the channels out of Capt. Couch's hands; they had adopted the inventor's principle, but instead of the bolt being placed longitudinally, it was driven diagonally. He believed Capt. Couch had not been fairly dealt with.

"Report on the Steam-engine Constants Indicator," by Professor Moseley. For the purpose of obtaining an instrument which should give a correct register of the power of the steam-engine, the Association had granted 100*l.*; a committee had been appointed; and Professor Moseley had invented the present indicator. The professor having explained the principle of the invention,

Mr. Brunel expressed his perfect confidence that the indicator would fully effect the required purpose; and hoped that correct results would, from the applicability of the invention, be obtained.

Sir Isambard Brunel gave an interesting explanation of the construction of the Thames Tunnel, which he illustrated by means of a series of drawings.

#### ELECTRICAL SOCIETY.

TUESDAY evening, Aug. 17. Read the following papers:—1. "On a new electro-magnetic machine," by Mr. B. Hill. In the original machine of Dr. Ritchie, it was stated the attraction commences at the worst possible point, namely, where the attracting poles are at the greatest distance from each other, and in an oblique and opposed position. This has been endeavoured to be obviated in various ways; but Mr. Hill conceives the full power of magnetic attraction is not as yet realised. He proposes, and has constructed, an apparatus in which he now considers the fullest attractive and repulsive power are called into exercise. It consists of a star of soft iron of eight radii (it may, of course, be made of any number), round which is coiled covered wire, so that each diameter may be separately magnetised when

connected with the battery; also of a stationary electro-magnet, which is constantly magnetised in the same direction, and firmly fixed to the frame of the machine. Diagrams illustrated these, as also the contact-breaker. When connexion is established, each diameter will be made to act as a Ritchie's rotator, with the immense advantage that the attracting and repelling distance for one of the diameters will never exceed one-eighth of the periphery of the circle formed by the rotating star; and if the star be made with a greater number of radii, this distance will be shortened; the other diameters also contributing to produce motion in the same direction, though with less energy, as these distances are greater. For the full understanding, however, of the arrangement, reference must be had to the October volume of the Proceedings of the Society; as also to fully comprehend the important step gained by Mr. Grove in etching Daguerreotype plates by a voltaic process. His valuable paper, read after Mr. Hill's, we understood will be published in full therein, and illustrated by specimens of the printing from the etched Daguerreotype, as well as of the electrotype copy thereof. A full abstract of the paper, detailing somewhat of the process, will be found in our present number under the head of "Fine Arts."—The other papers read were entitled, "A description of a small atmospheric electrical apparatus," by Mr. Weekes; "Further observations on electrotype manipulation (fusible metal)," by the secretary; "Method of giving more force and stability to the current of galvanic batteries, formed by a single liquid," by Professor Poggendorff, translated by the secretary; and, lastly, Mr. Weekes' register for July. The value of the register, as indicating the electrical state of the atmosphere, sometimes noted five or six times in the course of a day, with other meteorological phenomena, can only be appreciated by an inspection of the quarterly volume of the Society; and by one who is alive to the interest the meteorological investigation is exciting, as conducted under the auspices of the British Association, Mr. Weekes' register will afford valuable data.

## PARIS LETTER.

Paris, August 17, 1811.

*Academy of Sciences.* Sitting of August 9.—M. Larrey read a learned memoir on the nature and cure of certain scrofulous complaints; and mentioned a curious case, in which a scrofulous tumour in the neck of a young woman had been extirpated by the removal of some diseased glands.—M. Stanislas Julien sent to the Academy some specimens of a peculiar mineral substance, from the province of Kiang-Si, in China, on which, in times of famine, the inhabitants had been said to be able to support themselves as a nutriment. He had received the substance from the superior of the Lazarist mission in that country: it had a disagreeable taste, and produced dryness in the mouth. The idea of its being in reality nutritious was altogether a mistake; it produced disease, and ultimately death; but was nevertheless used by the natives, mixed with flour, and was even esteemed by them.—M. Mayer, of Lausanne, communicated a note on various improvements he had effected in partial baths for diseased portions of the body. He employed small metallic tubes and basins, furnished with preparations in caoutchouc, by means of which any, the smallest, portion of the body could have a certain degree of heat applied to it for any length of time.—M. Moulton informed the Academy, through the medium of M. Arago, that the water of the Artesian well of Grenelle was

now very clear, and that no further obstructions had been met with.—M. Arago took the opportunity of stating that, according to some plans recently laid down for the formation of a branch railroad to Sceaux, the line was made to pass close by the Paris Observatory, cutting the garden in two. This, if it had been carried into effect, would have rendered the abandonment of that building inevitable. Even as it was, the Versailles and Meudon railroad, though at some distance from the Observatory, affected the astronomical instruments contained in it by the oscillations caused by the motion of the trains.

A paper was read by M. Dumas on a new and simple method of analysing the waters of mineral springs; it allowed of the analysis being made on the spot, which, in the case of sulphureous water, was of importance.—A new method of gilding, by means of the voltaic pile, was described by M. de Ruolz. The gold was transferred to any kind of surface with rapidity, and remained fixed much more durably than by any of the ordinary procedures hitherto adopted.—M. Laurent communicated to the Academy the drawings and description of a machine for the improved fabrication of gunpowder, by means of which the employment of manual labour, except for superintending the working of the apparatus, was entirely superseded. Most of the common causes of accidents in this dangerous occupation were avoided by the new machine, which also made the powder more rapidly, and with less waste of material, than by the ordinary methods.

*Antiquities.*—The tomb of Claude Groulard and Barbe Giffaut his wife has been lately discovered in one of the halls of the château of St. Aubin-le-Cauf, in Normandy, belonging to the duchess of Fitzjames. Claude Groulard was a magistrate of the Rouen parliament, temp. Hen. IV., and his tomb is to be placed in the hall of the procurators in that city. On it are two well-wrought marble statues; one of the magistrate himself kneeling, the other of his wife recumbent. The sculpture of the former is very remarkable as a work of art; the latter is not so well executed, but the face was a copy from the living model.

A considerable portion of the old walls of the château of Vincennes has just been levelled with the ground, in order to make room for the new fortifications, and the grand entrance-tower by the road-side,—as fine as the entrance of Lancaster or Caernarvon castles,—is ordered to be demolished! Marshal Soult had signed an order for the destruction of the chapel,—the Sainte-Chapelle of Vincennes,—one of the finest monuments in France,—because it stood in the way of the alterations, and because a brick building by its side, used as an armoury, was thought better to be kept standing! The king, however, rode over there the other day, to see how the works were going on; and upon being informed that the chapel was to be destroyed, immediately cancelled the order, and directed it to be carefully preserved. These are facts,—facts of the nineteenth century!

It is impossible to stigmatise too strongly the barbarous and unholy spirit that shews such utter disregard to the memory of bygone days, and that cannot appreciate what was good in the acts of former generations. How empty is the progress made in civilisation, when a man like Marshal Soult—who has been accustomed to move in polished society, and who might have known what is said to be the current feeling of the age against Vandalism of all kinds—can coolly affix his signature to an order, which would only be paralleled in England by a decree to cut off Henry VII.'s Chapel

from Westminster Abbey, because it might interfere with the new Houses of Parliament,—or to pull down Eton Chapel, because it is an eyrie to Windsor Castle! And yet have we not had a medieval castle in England just pulled down to supply materials for a county-jail,—and that too in a county the lord lieutenant of which is a man of taste and education, and the principal town of which, where the abomination was perpetrated, is the seat of a learned university, and the head-quarters of several antiquarian societies? All such needless insults to the ancient glory of a country are only proofs of modern degeneracy.

We were in the Sainte Chapelle of the Palais de Justice, in Paris, the other day; the restoration of which is going on most actively and most judiciously. The fine state of preservation in which the trefoiled arcades, formerly concealed by the cases for the archives, have been found, is very cheering: it was all painted and gilt from top to bottom (the chapel of the château of St. Germain, temp. Charles V., is gilt all over except the marble floor), and would put to shame those who cry out against the admirable painting of the Temple church in London. The municipal council of Paris have voted 100,000fr., or 4000£, per annum, for the works of the chapel alone, as long as the architects deem it necessary; and 360,000£ for the whole of the Palais de Justice.

M. Gallait, who painted the "Abdication of Charles V.", exhibited in this year's salon at the Louvre, for the Belgian government, and who received the decoration of the Legion of Honour for it,—has, since his return to Brussels, been decorated with the cross of the order of Leopold. The Belgian minister of the interior has informed him, that, though the price originally agreed on for this fine work of art was 70,000fr., he was instructed to say that the government would leave him to put his own valuation upon it.

## LITERARY AND LEARNED.

## NEW EGYPTIAN TYPOGRAPHY.

AMONGST the most curious examples of progress in the means of diffusing information, none yields to the splendid enterprise of Mr. Nies of Leipsic. This gentleman has cast a whole fountain of movable hieroglyphic types, representing all those which are known, and to which he adds all the characters just discovered. By these means the interesting remains of ancient Egypt, its history and literature, will be printed with the same facility as any common character. Above 3000 of these hieroglyphic characters are finished; and it is curious to see, in his compositor's rooms, partitions filled (as a printing-office with letters) with lions, sphinxes, geese, and various nondescript symbols.

## FINE ARTS.

*Etching Daguerreotype Plates by a Voltaic Process.* By W. R. Grove, M.A., F.R.S., Prof. Exp. Phil. to the London Institution.

(Read at the Electrical Society.)

WE have regarded with no slight interest, and have rejoiced in having been among the first to bring to the notice of the public, the wonderful and beautiful processes known as the Electrotype, Daguerreotype, Calotype, &c. Curious and beautiful, however, as these types of the operations of nature may be, the utilisation thereof, their application to, or rather their taking rank among, the arts, has occupied much of our attention and expectation. We hailed with delight the employment of galvanic deposition for

the copying, multiplying, and diffusing impressions of valuable engravings. Electro-gilding, silvering, &c. dispensing with processes, though not immediately fatal, yet fraught to human life with misery and suffering, met with our warmest approval. The Calotype, Mr. Fox Talbot's process, applied to the taking of portraits, capable of being corrected or touched, and thus becoming finished works of art, under the hands of Mr. Collins, received our earliest attention. The Daguerreotype also, although coming to this country under circumstances unfavourable to investigation and improvement, as a progress in science, and as a promise for the advancement of the arts, had prominent place in our columns. And we have now great pleasure in announcing to our readers the success of Mr. Grove in etching Daguerreotype plates, and printing therefrom. Not, it is true, as yet with the clearness and breadth of an ordinary highly finished etching, but with all the accuracy and delicacy of the original Daguerreotype, and with every promise of perfection. But let Mr. Grove describe his experiments, and his own opinions of success. He says, the process possesses the advantage of extreme simplicity, and produces a perfect etching of the original image; so much so, indeed, that a plate thus etched can scarcely be distinguished from an actual Daguerreotype, preserving all the microscopic delicacy of the finest parts of the impression. One sentence will convey the secret of this process; it is to make the Daguerreotype the *anode* of a voltaic combination, which will not of itself attack either silver or mercury, but of which, when electrolysed, the anion will attack these metals unequally. Admitting the usual explanation of the Daguerreotype, which supposes the light parts to be mercury and the dark silver, the object was to procure a solution which would attack one of these, and leave the other untouched; if one could be found to attack the silver, and not the mercury, so much the better; as this would give a positive engraving, or one with the lights and shadows as in nature: but, unfortunately, silver and mercury are nearly allied in their electrical relations. Mr. Grove made several experiments with pure silver and mercury, used as the anode of a voltaic combination, but found that any solution which would act on one acted also on the other. All then that could be expected was a difference of action. With the Daguerreotype plates he has used the following: dilute sulphuric acid, dilute hydrochloric acid, solution of sulphate of copper, of potash, and of acetate of lead. But, after many experiments, hydrochloric acid was fixed upon as decidedly the best: this had been expected, from the strong affinity of chlorine for silver. The manipulation employed by Mr. Grove and Mr. Gassiot in the laboratory of the London Institution was as follows:—A wooden frame is prepared, having two grooves at 0·2 of an inch distance, into which can be slid the plate to be etched, and another plate of the same size of platinum; this latter is platinised after Mr. Smee's method, to ensure a ready and equable evolution of hydrogen; for if the hydrogen adheres to any parts of the cathode, the opposite portions of the anode are proportionably less acted on. The back and edges of the Daguerreotype are varnished with a solution of shellac, which is scraped off one edge to admit of metallic connexion being established. The wooden frame, with its two plates, is now fitted into a vessel of glass or porcelain filled with a solution of two measures of hydrochloric acid + 1 distilled water (sp. gr. 1·1); and two stout platinum wires, proceeding from a single pair of the nitric-acid battery, are made to touch the

edges of the plates, while the assistant counts the time; this should not exceed 30 seconds. When the plate is removed from the acid, it should be well rinsed with distilled water; and will now (if the metal be homogeneous) present a beautiful siena-coloured drawing of the original design, produced by a film of the oxy-chloride formed. It should now be placed in an open dish, containing a very weak solution of ammonia, and the surface gently rubbed with very soft cotton, until all the deposit is dissolved. As soon as this is effected, the plate should be instantly removed, plunged into distilled water, and carefully dried.

The process is now complete, and a perfect etching of the original design will be observed. This, when printed from, gives a positive picture, or one which has its lights and shadows as in nature, and which is, in this respect, more correct than the original Daguerreotype, as the sides are not inverted. Printing can therefore be directly read; and in portraits thus taken, the right and left sides of the face are in their proper position. With respect to prints from Daguerreotypes, there is, however, this difficulty: if the plate be etched sufficiently deeply for a good impression, some of the finer lines of the original must inevitably run into each other, and thus the chief beauty of these exquisite images be destroyed; if, on the other hand, the process be only continued long enough to leave an exact etching of the original design, which can be done to the minutest perfection, the very cleaning of the plate by the printer destroys its beauty. At present, Mr. Grove considers the most important part of the process to be the means it offers of multiplying indefinitely Daguerreotypes, which, when thus etched at the voltaic anode, will admit of any number of copies being taken from them by the electrolytic process: and, to give an idea of the perfect accuracy of these, there was one on which was a signboard measuring on the electrolyte copperplate 0·1 by 0·06 of an inch. Five lines of inscription can, with the microscope, be distinctly read.

For the advantages of the voltaic over the chemical process of etching, namely, the variety of menstrua that may be used—the generalisation of the action, and the avoidance of local voltaic currents—the power of accurately determining the time of the operation to produce a desired effect—of stopping and renewing the process, &c. &c.; also for the points for the consideration of the experimenter, namely, the quantity of the voltaic current, its intensity, the distance between the anode and cathode, and other scientific details,—we must refer our readers to the "Transactions" of the Electrical Society. In conclusion, attention was called to the remarkable effects of this action of the imponderable on the ponderable: thus, instead of a plate being inscribed as, "drawn by Landsseer, and engraved by Cousins," it would be, "drawn by Light, and engraved by Electricity."

#### ART-UNION EXHIBITION.

The Society of British Artists having handsomely afforded the use of their gallery in Suffolk Street for the purpose, the pictures which have been purchased through the medium of the Art-Union were on Saturday last exhibited to a multitude of amateurs, &c., invited to see the whole collected together, and will remain on view to subscribers for two or three weeks, and then, we understand, during two days be shewn gratuitously to the public at large. We confess that we were by no means prepared for the gratifying extent of progress which has been made by this association, nor

for an exhibition of so much beauty and interest; yet the funds having largely increased, and the selections of paintings having been made, generally, with taste and judgment, we ought to have expected the pleasure which awaited us. There were 133 subjects on the walls, the majority landscapes, but still a redeeming variety of history, poetry, and familiar life. In the front (No. 1) stood Macrise's gorgeous imagination of the "Sleeping Beauty," purchased by Mr. George Fry, the fortunate drawer of the first prize of 300*l.*, to which he had added 200*l.* to become the proprietor of this splendid work. Mr. Hage's admirable water-colour picture, the "Oath of Vargas," was chosen by Mr. T. D. Light, the holder of a prize of 200*l.*; and an "Arcadian Nymph," by E. Latilla, was preferred by Mr. W. R. Stanton, who drew a prize of 100*l.* Two of 80*l.* each, two of 75*l.*, four of 60*l.*, six of 50*l.*, and the rest ranging from 40*l.* to 10*l.*, led to the disposal of the number we have mentioned, and must thus have tended materially to the encouragement of deserving artists. In many cases the owners of the prizes had added considerably to the sums to which they were entitled, in order to obtain productions of higher merit than these sums could reach, though they this year amounted to no less than 3650*l.*, leaving a balance of 1325*l.* 12*s.* 5*d.* reserved for the engraving, a copy of which is presented to every subscriber, and is indeed worth more than the 1*l.* subscription. No wonder, then, that the Art-Union flourishes.

We were glad to see so many of our favourites again, which we had noticed with approbation at the Royal Academy, British Institution, British Artists, and Water-Colour Exhibitions; and also rejoiced to see new subscribers pouring in, to swell the means of this patriotic and valuable association.

#### PANORAMA OF JERUSALEM.

MR. R. BURFORD has just opened a beautiful panorama of the Holy City, upon a smaller scale than the one he exhibited a few years ago, and finished in the most perfect manner, in many parts like a fine easel oil-painting. Just fresh from the perusal of Dr. Robinson's work, reviewed in this *Gazette*, we were particularly struck and interested with the picture, which brought so vividly before our eyes nearly every object of worth described by that accurate topographer. The subject is an admirable one in every point of view; as being filled with picturesque pictorial effects, and at the same time associating the mind with the most touching memories. Mr. Burford has displayed all his genius upon it; and it is pre-eminently deserving of public favour.

#### VIEWS OF GREECE.

AFTER an absence of nearly a year and a half, assiduously devoted to the sketching of the most interesting features which Greece offers to the study of the artist, Mr. Linton has returned to his native country laden with the treasures he has so laboriously and delightfully collected. We have been favoured with a private inspection of his numerous paintings and drawings at the Water-Colour Gallery in Pall Mall, and know not when we have been more gratified by the production of individual talent. There is hardly a spot, endeared to the classic reader, of which Mr. Linton has not accurately traced the form. Going round the walls is like making a tour of Greece; and Athens, and Sparta, and Marathon, and Salamis, and Corinth, and Hymettus, and Pentelicus, &c. &c. rise up before us, till the fancy is excited almost to people them with the heroes and sages

and orators of immortal eloquence. The skill and industry and taste of the artist are alike entitled to our warmest praise; and we can assure those who are favoured with the means of admission to this place, that they have a very great treat in store.

### THE DRAMA.

*Her Majesty's Theatre* closed its subscription-season on Tuesday, after we are inclined to think, rather an unprofitable year, in consequence of political events, though in some measure compensated by the success of *Rachel*. To-night—the last last—is said to be for the benefit of *Rubini*.

*Haymarket*.—On Friday a Mr. Placide from America unadvisedly made his *début* here as *Sir Peter Teazle*, which is so identified with our highest comedians, that even a superior performer would have stood a poor chance in it. As it was, Mr. Placide was, as if consonantly with his name, the most level *Sir Peter* that ever was personated. He played *Lingo* afterwards, and proved an agreeable actor; inasmuch that we should think, in parts suited to him, he would be a useful addition to the stage.

*The English Opera House*.—The theatrical rumour of the opening of this house in a new way has been confirmed by the issue of a bill, which, as being both a dramatic and literary curiosity, we copy.

VIVANT REGINA ET PRINCEPS!

Theatre Royal

ENGLISH OPERA HOUSE,

Conducted by the Council of the Dramatic Authors' Theatre, established for the full encouragement of English living Dramatists.

*Address to the Public*.—The generous national feelings of the British public are proverbially interested in every endeavour to obtain 'a free stage and fair play.' The council of the dramatic authors' theatre seek to achieve both for every English living dramatist; and trust that the misrepresentation of interested cliques may not be suffered to prejudice their endeavours. Compelled by the state of the law to present on the stage a high tragic composition in an irregular form (in effecting which, nevertheless, regard has been had to those elements of human nature which must constitute the essential principles of every genuine dramatic production), they hope for such kind consideration as may be due to a work brought forward in obedient accordance with the regulations of acts of parliament, though labouring thereby under some consequent difficulties; the law for the small theatres royal, and the law for the large theatres royal, not being one and the same law. If by these efforts a beneficial alteration in such law, which presses so fatally on dramatic genius, and which militates against the revival of the highest class of drama, should be effected, they feel assured that the public will participate in their triumph.

On Thursday, the 26th of August, will be presented, for the first time (interspersed with songs and music), *Martinuzzi*, by George Stephens, Esq., taken by him from his 'magnificent' dramatic poem, entitled, 'The Hungarian Daughter.' The principal acting parts:—*Isabella* (queen mother, and co-regent of Hungary), Mrs. Warner; *Cserina* (daughter of Martinuzzi, and innocent usurper of the crown of Hungary), Miss Maywood; ladies, &c. &c.; *Martinuzzi* (regent of Hungary, and father of Cserina), Mr. Phelps; *Sigismund* (rightful heir to the throne), [ ]; *Castaldo* (marquis Piadena, the lover of Cserina), Mr. Elton; *Rupert* (from Warsaw), [ ]; *Austrian*

*General*, [ ]. The principal singing parts: *Lady Bertha* [ ]; *Turasc* [ ]. Nobles, guards, officers, masquers. The solos, duets, chorusses, and every other musical arrangement the law may require, by Mr. David Lee. After which will be performed, also for the first time, an original entertainment, in one act, entitled, *The Cloak and the Bonnet*, by the author of *Jacob Faithful*, *Peter Simple*, &c. &c. *Jemmy Laidlow*, Mr. Maywood."

### VARIETIES.

*Wonderful Travelling*.—We are informed that a distance of 57 miles has been travelled on the common road, in a Bath chair, by electro-magnetic power, in one hour and a half. And further that the applier comes over daily from St. Albans to the Bank of England in the said chair in half an hour, at an expense of sixpence. The model of an electro-magnetic engine, which has been exhibiting at the Adelaide Gallery for some time, is an instance of ingenious mechanic arrangement, whereby contact is broken and renewed, the poles reversed, &c.; and from its performances gave great promise of practical powers on a larger scale. The battery employed is the nitric acid, or Grove's battery. Of the invention that has done the great feat, and established the successful application of this wonderful agent, we know little more than its success. We hear that the increase of power is due to the discovery of a new combination of elements; that this is the secret of the moving power; and that the battery is to be the subject of a patent.

*National Monuments' Society*.—The annual meeting is appointed for to-day at the Thatched House.

*Pension to Mrs. James*.—The ministers of her Majesty have done themselves and their royal mistress honour by conferring, as we are informed, a pension of 100*l.* a year on the widow of Mr. James, the naval historian. The Lords of the Admiralty, and Sir C. Adam in particular, warmly recommended this very popular grant.

*Royal Dispensary for Diseases of the Ear*.—We

rejoice to see it stated, that the funds of this excellent charity have been aided by a sermon preached before the Lord Mayor, at St. Bride's Church, by the Rev. E. Thompson of Pimlico.

The value of the institution was eloquently illustrated by the preacher; and the fact that 12,000 patients had been relieved, by the skilful treatment of Mr. Curtis, since its establishment, was adduced with great influence as a recommendation of the institution. It was stated that there were upwards of 100,000 deaf and dumb persons in Europe, a large proportion of whom might be restored to the unalloyed blessing of social intercourse.

*Steam Carriage*.—Another experimental steam carriage has just been started, and, according to the newspaper account, performed a journey of eight miles on a road with hills to ascend and descend, in perfect security and at considerable speed.

*The Boston Notion*, an immense newspaper, is sent us from America, and is a great curiosity. Besides portraits of the principal statesmen in Congress, and other woodcuts, the sheet contains ninety-six columns, and one hundred square feet, or 12,000 square inches of reading matter!! If bulk were knowledge, and size intelligence, what would such a journal be? As it is, it is very various and amusing, though in form a very inconvenient volume.

*Vegetation of Seeds*.—The newspapers state, that some ground turned up in Bushy Park last

winter, which had probably not been disturbed since the time of Charles I., has this summer been covered with a spontaneous growth of mimionette, pansies, and wild raspberries, none of which are found in the neighbourhood.

*The Population of the United States*, according to the census of 1840, amounted to 17,100,572.

*Earthquake in Spain*.—On the 7th the shock of an earthquake was felt extensively throughout Spain, at Seville, Cadiz, Malaga, &c.

A misprint in our last marred a rhyme, at least, in our epigram on *The Times*' denunciation of members of the British Association for having appetites like other men. The word "fitter" was used instead of "given," or the verse would have run thus:

A meeting of Savans, forsooth!

Another name is given for 't;

Their're Gastronomes at Ply Mouth,

And Bonvivants at Devon Port.

The following co-lateral effusion has reached us from *Drakes Island*, Plymouth Sound:

On the eight hundred pair of ducks (not Russia) prepared for the British Association, and by them for the greater part left uneaten in the hands of the purveyors, the attendance being far less numerous than expected:

These Sages errant are called *Quacks*,

Of judgment weak and fallible;

Yet wisely, sure, they turn'd their backs

On birds that bawled that syllable.

(Signed) "VERILOQUAX" (gy. very-low-quacks!)

In the model-room at Devonport Dock-yard the Catalogue commences with

"1. The Ark, the earliest constructed vessel for floating of which there is any record; built by Divine command before the flood, by Noah: its dimensions were—

*Jewish measurement.*      *English measurement.*

Length . . . . . 300      FEET.

Breadth . . . . . 50      450

Height . . . . . 30      75

This Emblem was made by J. Lambell, Pitch-heater of the Dockyard."

### LITERARY NOVELTIES.

#### LIST OF NEW BOOKS.

Moore's (T.) *Poetical Works*, Vol. X. (concluding volume), 12mo, 5*s.*—Bellamy's (John) *New Translation of the Bible*, Part VIII. Proverbs, Ecclesiastes, and Canticles, 4to, 12*s.*—*The Graveyards of London*, by G. A. Walker, 8vo, 1*s.*—*Self-Instruction French Grammar*, by D. M. Aird, sq. 1*s.*—*An Essay on the Government of Dependencies*, by G. C. Lewis, Esq. 8vo, 12*s.*—*Adolphus's History of the Reign of George III.* Vol. IV., 8vo, 1*s.*—*Hachar's German Copies*, Part I., oblong, 2*s.*—*Practical Exposition of St. John*, by the Rev. R. Anderson, Vol. I. 12mo, 7*s.*—*The Church Service arranged for Chanting*, by Dr. Farmer, 18*s.*—*The Genius of the French Language displayed*, by H. Holt, new edit. 12mo, 3*s.*; *Key*, 3*s.*—*Doul's Parliamentary Pocket Companion*, 18*s.* 4*s.*—*History of the English Empire*, by Sir R. Chomley, 2 vols. 8vo, 11*s.*—*Spury, 12*s.*—*Sermes*, by the Rev. Luke Forster, with Life by the Rev. J. Ely, post 8vo, 8*s.*—*Sketches of Scottish Church History*, by the Rev. J. McCrie, 12mo, 6*s.*—*Hand-Book for Travellers by London and Birmingham and Grand Junction Railway*, plain, 3*s.* 6*d.*; coloured, 4*s.* 6*d.**

### METEOROLOGICAL JOURNAL, 1841.

	Thermometer.	Burometer.
Thursday . . . . 12	From 46 to 62	29-80 to 29-88
Friday . . . . 13	42	29-84
Saturday . . . . 14	45	29-58
Sunday . . . . 15	42	29-65
Monday . . . . 16	52	29-67
Tuesday . . . . 17	56	29-90
Wednesday . . . . 18	58	29-99

Winds, south and south-west.

On the 12th, clear; the 13th, overcast, rain at times;

\* The worthy Jack who was expounding this was completely non-plussed by a *saxon* asking him if he knew when salt meat was first used on shipboard? He puzzled about Queen Elizabeth, the Spanish Armada, or Henry the Eighth; and was amazed to be told that it was in the very vessel he was describing, for Noah carried *Ham* with him!

the 11th, morning cloudy, with heavy rain, otherwise clear; the 13th, generally clear, a little rain fell during the afternoon; the 16th, clear; the 17th, generally cloudy; the 18th, morning cloudy, otherwise clear. Rain fallen, .595 of an inch.

CHARLES HENRY ADAMS.

### TO CORRESPONDENTS.

The lapse of time, which occasions changes in all things, has, from circumstances of a private nature, led to the purchase of the entire copyright of the *Literary Gazette* by the gentleman who has been the sole Editor and part proprietor from its commencement. Though he has exercised a despotic and independent control over its literature during all that period, it has been difficult to disabuse the public of a certain degree of belief in interested and infiulical misrepresentations,—that, being connected with eminent publishers, it was sometimes biased in its views by prepossessions in their favour. There was not a particle of truth in this infiulically circulated rumour; but it had, like all often-suspected falsehoods, a partial effect, which we take this opportunity to remove for ever, since the *Literary Gazette* is now entirely unconnected with "the trade."

With so largely increased a stake in its prosperity, the Editor begs leave to say that he will earnestly endeavour to infuse fresh spirit and vigour into its pages: will associate new and able allies in its various departments, and spare neither labour nor cost in making it worthy of general approbation. But to the numerous friends which it has made, and the multitude who have brought forward and served in literature, in the arts, in the sciences, and in other refined and intellectual pursuits, he would add, that no combined effort and expense are so effeetual in producing excellence, as the assistance and co-operation of individuals who will think it worth while to communicate even the smallest articles of information upon the subjects embraced by the publication. Such aid he respectfully and cordially invites from his personal well-wishers, and from those who have been the well-wishers of the *Gazette* to the present day. Even already, within a few weeks, it has experienced the benefit of this feeling in a singular increase of circulation; and this cheering prospect will further animate the exertions to render it still more deserving of support and patronage.

For the present, we need not trespass beyond this brief announcement of the alteration in the copyright which has taken place, and conclude by hearty thanks to all who have hitherto been our friends. \*

\* Our readers will see that we have changed our masters, and that Messrs. Robson, Levey, and Franklyn, for years assiduously employed upon the *Literary Gazette*, and in whose skill we repose the utmost confidence, are now employed in that capacity.

We have resolved hereafter to receive respectable Advertisements of a miscellaneous character; and to make room for them, and the additional and original matter contemplated among our improvements, we shall print extra half sheets whenever they are necessary: our first appeared last Saturday.

### ADVERTISEMENTS.

#### MISCELLANEOUS.

HENDRIE'S PERFUMERY, honoured by the patronage of the highest circles for upwards of sixty years, continues to be favoured with a decided preference; every article, distinctly labelled with the Name and Address, is warranted of the first quality.

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See the detailed Plans and last Annual Reports of the Society, to be had at the Office, at any of its Branches, or on application will be forwarded post free.

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It obviously becomes easy for a person of very moderate income to secure, by this arrangement, a provision for his family; and should he die before, after effecting the Insurance, succeed to or receive a sum of money, the Premiums on the Policy, having only paid one-half the Premiums for the first five years, instead of the whole, as in all other Companies.

Thus a man of twenty years old may, by annual payment of £25 16s. 3d., for the first five years, and afterwards on the full Premium of £57 12s. 3d., receive a sum to be added to his death premium of no less than £3000, subject only to the deduction of £141 1s. 3d., being the amount of Premium unpaid.

On the 1st of July, the Board of Directors added 2 per cent per annum to the bonus to those Assured on the participation plan from the date of the Policy, and will add 2 per cent per annum in addition to every Policy for £1000. The following table will show the amount of the bonus on Policies since the commencement of the Company in March 1834:—

Sum Assured.	Time Assured.	Sum added to Policy.
£1000	6 Years 10 Months	£156 13s. 4d.
1000	5 Years	100 0 0
1000	4 Years	100 0 0
1000	3 Years	60 0 0
1000	2 Years	40 0 0
1000	1 Year	20 0 0

This table will show the various rates of interest, and inducements to the public. When such facilities are afforded, it is clearly a moral duty in every person who is not possessed of a fortune, but of an income, however moderate, to insure his life for a sum which may yield a comfortable provision for his family.

#### RATES OF PREMIUM.

Age.	Without Profits.	With Profits.
25	£1 18 5	£2 11 per cent.
30	3 10	do.
35	2 19 1	3 3 do.
40	4 9 8	4 14 5 do.
50	6 15 3	6 17 9 do.

Insurance may be effected on lives however far advanced, and credit for five years is found particularly convenient on such occasions. The greater the time, the more the premium, and the convenience of persons residing in the City, they may make their appearance and pass the medical examination before the Agent, Edward Frederick Leeks, Esq., No. 2 Charlotte Row, Mansion House; and J. F. Goude, Esq., Surgeon, 165 Cheapside, Edward Street. The Agent, Mr. Edward Boyd, Esq., Surgeon, 8 Waterloo Place, is in attendance, to give despatch to the business.

PATRICK MACINTYRE, Secretary.

### LITERATURE AND ART.

Under Her Majesty's Royal Letters Patent.

DAUGERROTYPE.—Royal Gallery of Practical Science, Louther Arcade, West Strand.—Mr. CLAUDET is now taking PORTRAITS and GROUPS of FIGURES, at this institution, upon a greatly improved plan; in addition to which, by a new application, Mr. Claudet is enabled, without any additional Charge, to paint the Portraits, and to make them "so lifelike that they will fade in time."

The State of the work, and the time required, will not offer any impediment to the process; and parties are not expected to take their Portraits unless perfectly satisfied with the likeness.

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Admission, 1s.—Catalogue, 6d.

WILLIAM BARNARD, Keeper.

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On Wednesday next, August 26, in 3 vols, post 8vo, with numerous Illustrations by PHIZ,

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